

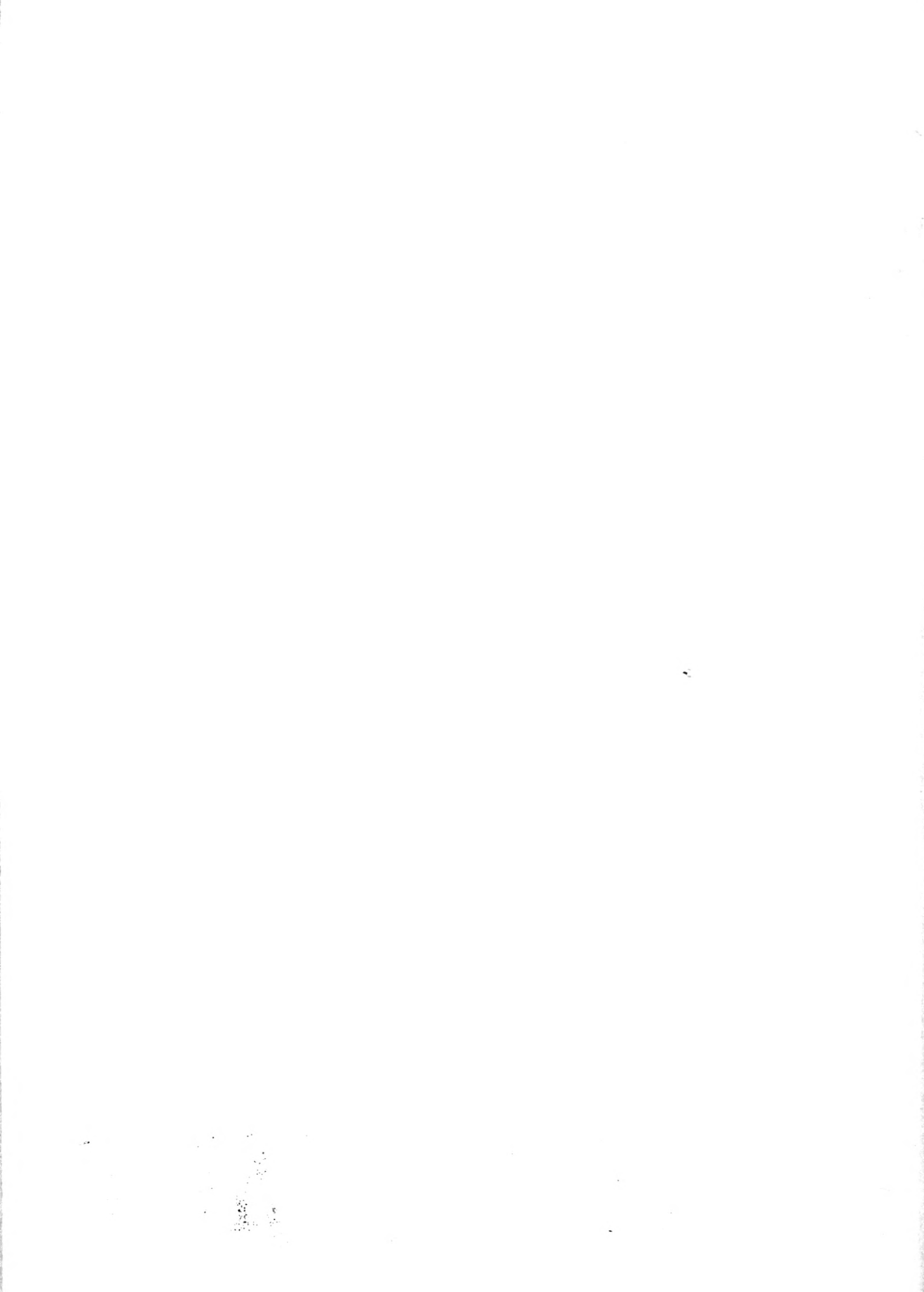


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Department of Water Resources

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BULLETIN No. 130-71

# HYDROLOGIC DATA: 1971

Volume I: NORTH COASTAL AREA

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State of California

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Director  
Department of Water Resources





STATE OF CALIFORNIA  
The Resources Agency  
Department of Water Resources

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HYDROLOGIC DATA: 1971

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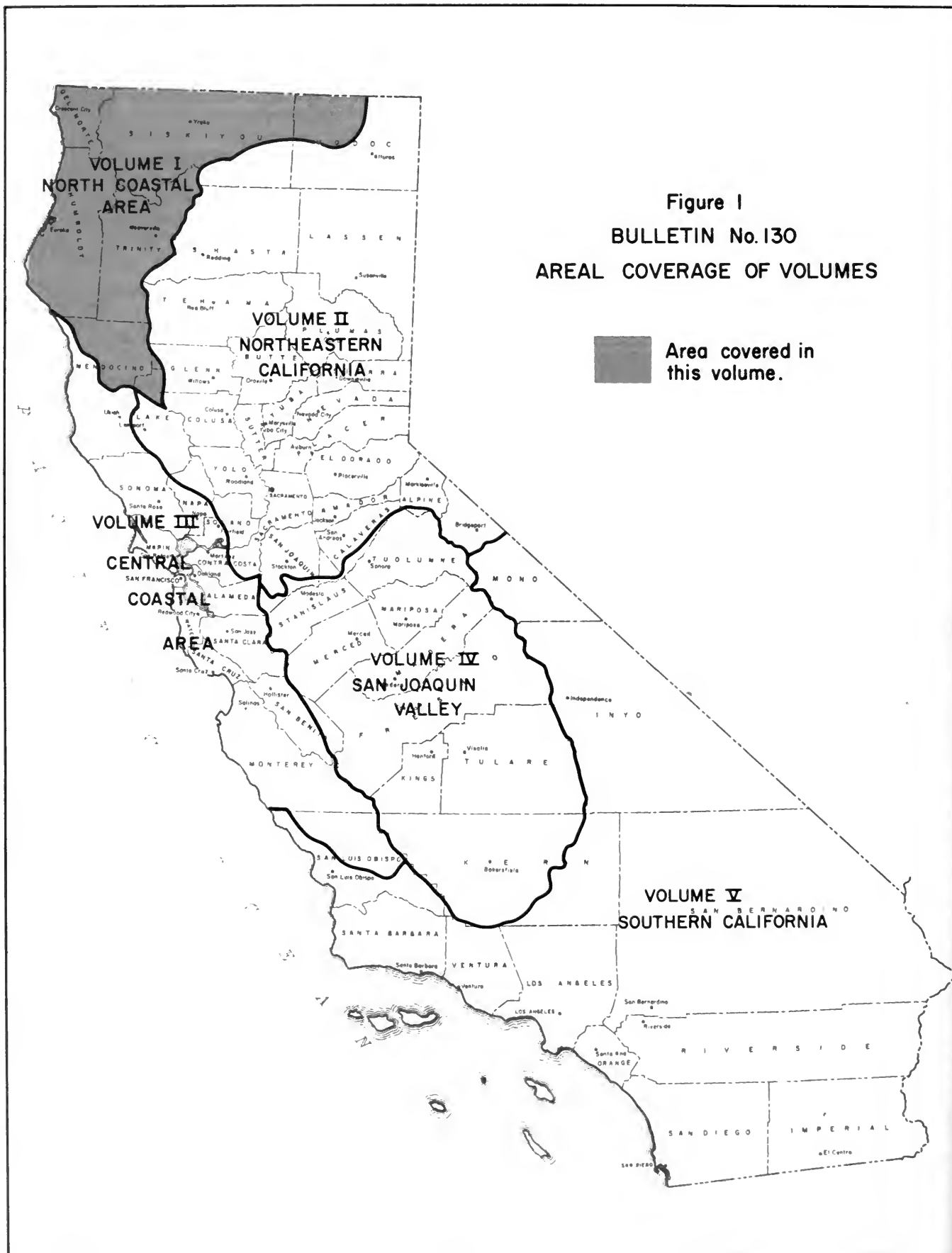
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*Director*  
Department of Water Resources



## FOREWORD

The hydrologic data programs of the Department of Water Resources supplement the data collection activities of other agencies and help satisfy needs of these agencies for data on the quality and quantity of water in the State. Bulletin No. 130-71 presents accurate, comprehensive, and timely hydrologic data which provide a more complete knowledge of the factors affecting our environment and are prerequisites for effective planning, design, construction, and operation of water facilities.

The Bulletin No. 130 series is published annually in five volumes. Each volume presents hydrologic data for one of five reporting areas of the State. These areas are delineated on the map on the opposite page.

*William R. Gianelli*

---

William R. Gianelli, Director  
Department of Water Resources  
The Resources Agency  
State of California  
October 18, 1972

# METRIC CONVERSION TABLE

<u>ENGLISH UNIT</u>	<u>EQUIVALENT METRIC UNIT</u>
Inch (in.)	2.54 Centimeters
Foot (ft.)	0.3048 Meter
Mile (mi.)	1.609 Kilometers
Acre	0.405 Hectare
Square mile (sq. mi.)	2.590 Square kilometer
U. S. gallon (gal.)	3.785 Liters
Acre-foot (acre-ft.)	1,233.5 Cubic meters
U. S. gallon per minute (gpm)	0.0631 Liter per second
Cubic feet per second (cfs)	1.7 Cubic meters per minute
Part per million (ppm)	Milligram per liter (mg/l)
Part per billion (ppb)	Microgram per liter (ug/l)
Part per trillion (ppt)	Nanogram per liter (ng/l)
Equivalent per million (epm)	Milliequivalent per liter (me/l)
Degrees Fahrenheit (°F)	Degrees Celsius or Degrees Centigrade (°C) = (°F - 32°) 5/9

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## ABSTRACT

The report contains tables showing data on surface water flow, ground water levels, and surface and ground water quality in the North Coastal area during the 1970-71 water year. Figures show the location of climatological stations, surface water measurement stations, surface water sampling stations, and ground water basins. Although a map and index of climatological stations are included, precipitation and evaporation data have been dropped from the Bulletin No. 130 series.

## ACKNOWLEDGMENTS

Valuable assistance and contributions were received from several public agencies and many private cooperators. The cooperation of the National Weather Service (formerly the U. S. Weather Bureau) and the U. S. Geological Survey was particularly helpful and is gratefully appreciated.

A special note of thanks is extended to the many loyal and dedicated weather observers whose unselfish efforts have contributed immeasurably to our knowledge of historical weather conditions in the North Coastal area.

State of California  
The Resources Agency  
DEPARTMENT OF WATER RESOURCES

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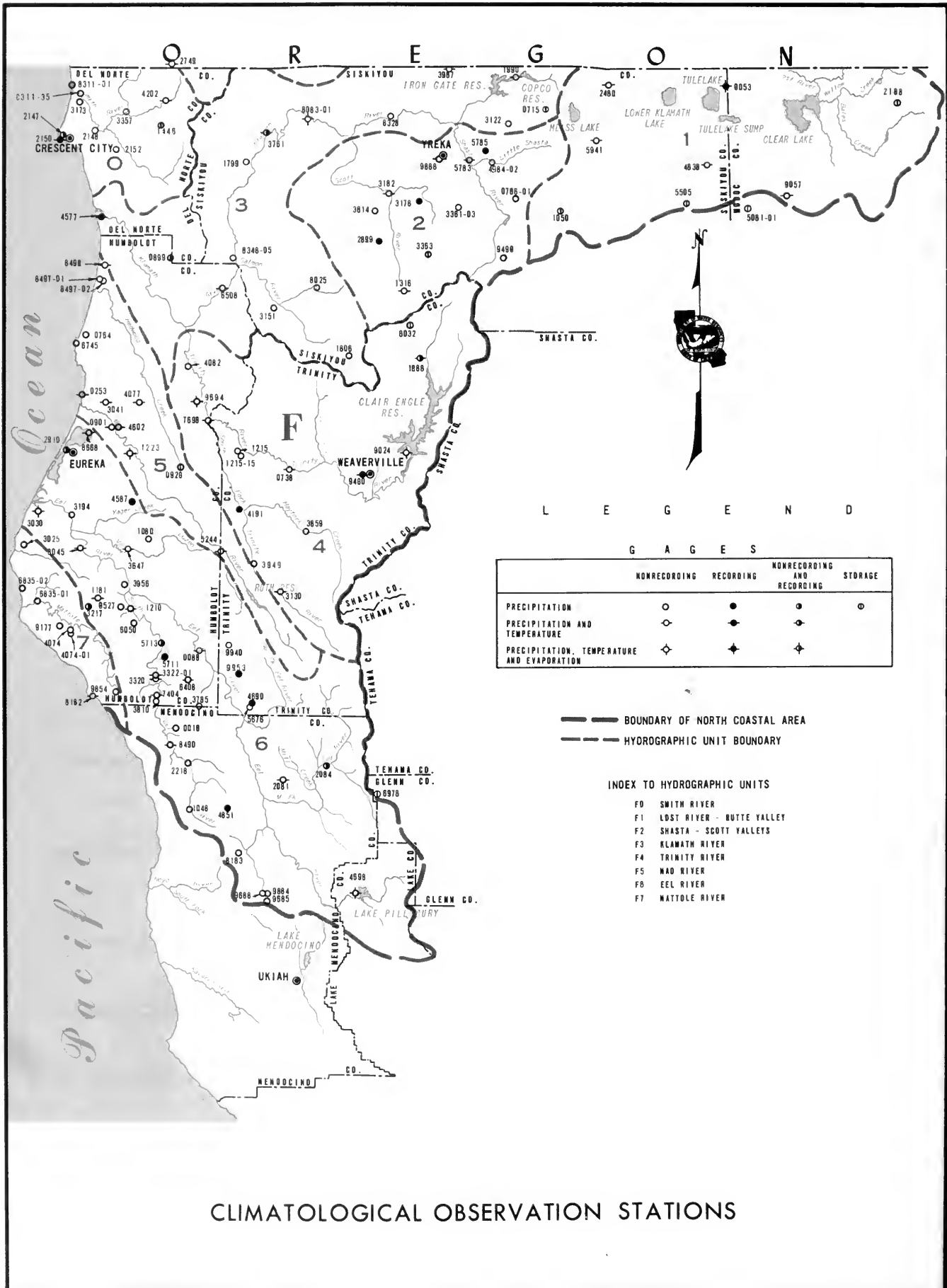
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## APPENDIX A

### CLIMATOLOGICAL DATA

The Department of Water Resources has substantially reduced its collection and publication of climatological data. With the exception of storage gage precipitation data collected in remote mountainous regions, the Bulletin No. 130 series no longer contains climatological data.

However, precipitation data collected by the National Weather Service and local observers and cooperators in the North Coastal area are available in other reports. The National Weather Service publishes a report entitled "Climatological Data for California" and a companion volume, "Hourly Precipitation Data". The Department of Water Resources recently published Bulletin No. 165, "Climatological Stations in California, 1971, Indexed by County", which includes data assembled by observers and cooperators and lists both active and historical precipitation measurement stations.

In addition, evaporation data and daily climatologic data, including temperatures, together with local conditions and qualifying remarks, are available in the files of the Department of Water Resources.

The map and index of climatological stations in the North Coastal area have been retained in this appendix to show the location of the stations and pertinent information concerning them.

TABLE A-1 INDEX OF CLIMATOLOGICAL STATIONS

An explanation of the column headings and code symbols follows:

40-Acre Tract - This denotes the location of the station within the section in which it is located. The letter code is derived from the diagram to the right.

D	C	B	A
E	F	G	H
M	L	K	J
N	P	Q	R

Base and Meridian - The code for this column is as follows:

- H - Humboldt Base and Meridian
- M - Mount Diablo Base and Meridian

Cooperator Number - This number is assigned from the following list:

- 000 Private Cooperators
- 006 Northwestern Pacific Railroad
- 007 California-Oregon Power Company (COPCO)
- 804 California Department of Parks and Recreation
- 808 California Division of Forestry
- 809 California Division of Highways
- 900 National Weather Service (Climatological Data)
- 901 Corps of Engineers, San Francisco District
- 903 Corps of Engineers, Sacramento District
- 905 U. S. Forest Service
- 907 State Climatologist

Cooperator's Index Number - This is the number assigned to the station by the agency responsible for, or handling the records of, the station. The National Weather Service number is only shown in this column when it differs from the alpha order number.

County - This is a standard code for California counties; those counties used in this appendix are shown below:

<u>County</u>	
Del Norte	08
Glenn	11
Humboldt	12
Lake	17
Mendocino	23
Modoc	25
Siskiyou	47
Trinity	53

TABLE A-1  
INDEX OF CLIMATOLOGICAL STATIONS  
NORTH COASTAL AREA

Station		Elevation (in Feet)	Section	Township	Range	40-Acre Tract Base & Meridian	Latitude			Longitude			Cooperator Number	Cooperator's Index Number	Record Began	Record Ended	Years Missing	County Code
Number	Name						O	I	II	O	I	II						
F6 0018	ADANAC LODGE	1100	SEC 14	T23N	R17W	H M 39	50	48	123	42	00	000			1950			23
F6 0088	ALDERPOINT	435	SEC 27	T03S	R05E	H 40	11	00	123	36	00	900			1940			12
F5 0253	ARCATA A P	217	SEC 19	T07N	R01E	Q H 40	58	18	124	05	24	000			1957			12
F3 0715	BESWICK 7 S	6140	SEC 33	T47N	R03W	M 41	52	00	122	14	00	900			1952			47
F4 0738	BIG BAR RANGER STA	1270	SEC 05	T33N	R12W	M 40	44	54	123	14	42	900			1943			53
F5 0764	BIG LAGOON	100	SEC 18	T09N	R01E	R H 41	09	36	124	05	54	000	FW2125		1947			12
F2 0786-01	BIG SPRINGS 4 E	2955	SEC 05	T43N	R04W	R M 41	35	30	122	19	42	000			1960			47
F3 0899	BLUE CREEK MIN LO	4870	SEC 30	T12N	R04E	R H 41	23	42	123	45	54	900			1960			08
F5 0901	BLUE LAKE	105	SEC 30	T06N	R02E	A H 40	52	54	123	59	12	000			1951			12
F4 0929	BOARD CAMP MIN	4500	SEC 26	T04N	R04E	H 40	42	12	123	42	00	000			1963			12
F6 1046	BRANSCOMB 2 NW	1480	SEC 09	T21N	R16W	M M 39	41	12	123	39	36	900			1959			23
F1 1050	BRAY 10 WSW	5759	SEC 24	T43N	R03W	M 41	34	00	122	08	00	900			1951			47
F6 1080	BRIDGEVILLE 4 NNW	2050	SEC 27	T02N	R03E	H 40	31	00	123	49	00	900			1954			12
F6 1181	BULL CREEK	410	SEC 36	T01S	R01E	H H 40	21	00	124	06	30	000			1960			12
F6 1210	BURLINGTON ST PARK	200	SEC 12	T02S	R02E	D H 40	18	30	123	54	24	000			1950			12
F4 1215	BURNT RANCH 1S	2150	SEC 23	T05N	R06E	E H 40	47	48	123	28	48	900			1945			53
F4 1215-15	BURNT RANCH HMS	1500	SEC 14	T05N	R06E	F H 40	48	30	123	28	30	000			1963			53
F5 1223	BUTLER VALLEY RCH	420	SEC 36	T05N	R02E	H 40	46	123	54	900					1970			12
F2 1316	CALLAHAN RANGER STA	3136	SEC 21	T40N	R08W	M 41	18	00	122	48	00	900			1943			47
F0 1446	CAMP SIX LOOKOUT	3700	SEC 31	T17N	R03E	B M 41	49	48	123	52	24	000			1963			08
F3 1606	CECILVILLE 5 SE	2980	SEC 12	T37N	R11W	M 41	06	00	123	03	00	900			1954			47
F3 1799	CLEAR CREEK	975	SEC 07	T15N	R07E	H H 41	42	30	123	26	54	900			1959			47
F4 1886	COFFEE CREEK RS	2500	SEC 06	T37N	R07W	M 41	05	122	42	900					1960			53
F3 1990	COOCO DAM NO 1	2700	SEC 29	T48N	R04W	P M 41	59	00	122	20	00	900			1928			47
F6 2081	COVELO	1385	SEC 12	T22N	R13W	M 39	47	00	123	15	00	900			1921			23
F6 2084	COVELO EEL RIVER RS	1514	SEC 28	T23N	R11W	M 39	50	00	123	05	00	900			1940			23
FO 2147	CRESCENT CITY 1N	40	SEC 20	T16N	R01W	H 41	46	00	124	12	00	900			1885			08
FO 2148	CRESCENT CITY 7 ENE	120	SEC 08	T16N	R01E	H 41	48	00	124	05	00	900			1913			08
FO 2150	CRESCENT CITY HMS	50	SEC 20	T16N	R01W	H 41	46	00	124	12	00	900			1941			08
FO 2152	CRESCENT CITY 11 E	360	SEC 30	T16N	R02E	B H 41	45	18	123	59	30	000			1947			08
F1 2188	CROWDER FLAT	5175	SEC 20	T47N	R11E	K M 41	53	00	120	44	00	000	FW2188		1958			25
F6 2218	CUMMINGS	1270	SEC 21	T23N	R16W	M 39	50	00	123	38	00	900			1927			23
F1 2480	DORRIS INSPECT STA	4240	SEC 36	T48N	R01W	R M 41	57	18	121	54	30	000			1959			47
FO 2749	ELK VALLEY	1711	SEC 34	T19N	R04E	H 42	00	00	123	43	00	900			1938			08
F2 2899	ETNA	2912	SEC 28	T42N	R09W	M 41	28	00	122	54	00	900			1935			47
F6 2910	EUREKA WB CITY	43	SEC 22	T05N	R01W	H 40	48	124	10	900					1878			12
F7 3025	FERNDALE 8 SSW	1445	SEC 06	T01N	R02W	P H 40	29	30	124	20	24	900			1959			12
F6 3030	FERNDALE 2NW	10	SEC 34	T03N	R02W	K H 40	35	54	124	16	36	900			1963			12
F5 3041	FIELDBROOK 4 D RCH	285	SEC 36	T07N	R01E	P H 40	56	36	124	01	06	000			1956			12
F3 3122	FOOTHILL SCHOOL	2960	SEC 25	T46N	R05W	P M 41	48	42	122	22	18	000			1962			47
F4 3130	FOREST GLEN	2340	SEC 22	T01S	R08E	H 40	23	00	123	20	00	900			1930			53
F3 3151	FORKS OF SALMON	1270	SEC 24	T10N	R07E	A H 41	15	12	123	19	00	900			1959			47
FO 3173	FORT DICK	46	SEC 14	T17N	R01W	H 41	52	00	124	09	00	900			1951			08
F2 3176	FORT JONES 6 ESE	3324	SEC 12	T43N	R08W	M 41	35	00	122	43	00	900			1941			47
F2 3182	FORT JONES RANGER STA	2720	SEC 02	T43N	R09W	C M 41	36	00	122	51	00	900			1936			47
F6 3194	FORTUNA	60	SEC 35	T03N	R01W	Q H 40	36	00	124	09	00	000			1955			12
F6 3217	FOX CAMP	2500	SEC 09	T02S	R01E	R H 40	18	24	124	03	54	804			1960			12
F6 3320	GARBERVILLE	340	SEC 24	T04S	R03E	H 40	06	00	123	48	00	900			1938			12
F6 3322-01	GARVERVILLE HMS	540	SEC 24	T04S	R03E	G H 40	06	00	123	47	40	809			1935			12
FO 3357	GASQUET RANGER STA	384	SEC 21	T17N	R02E	N H 41	52	00	123	58	00	900			1940			08
F2 3361-03	GAZELLE - EPPERSON	2760	SEC 17	T43N	R06W	J M 41	34	18	122	33	12	000			1950			47
F2 3363	GAZELLE LOOKOUT	5200	SEC 08	T41N	R07W	J M 41	24	30	122	40	30	000			1956			47
F2 3614	GREENVIEW	2818	SEC 29	T43N	R09W	M 41	33	00	122	54	00	900			1943			47
F6 3647	GRIZZLY CRK REDWOOD	500	SEC 11	T01N	R02E	H 40	29	00	123	47	00	900			1963			12
F3 3761	HAPPY CAMP RANGER STA	1090	SEC 11	T16N	R07E	H 41	48	00	123	23	00	900			1914			47
F6 3785	HARRIS 7 SSE	1910	SEC 27	T05S	R05E	N H 39	59	24	123	36	42	000			1953			23
F4 3859	HAYPORK RANGER STA	2340	SEC 12	T31N	R12W	R M 40	33	00	123	10	00	900			1915			53
F4 3949	HIDDEN VALLEY RANCH	1978	SEC 32	T01N	R07E	M H 40	24	54	123	24	30	000			1959	1967		53
F6 3956	HIGH ROCK	900	SEC 15	T01S	R02E	K H 40	22	48	123	56	30	808			1960			12
F3 3987	HILTS	2500	SEC 23	T48N	R07W	M 42	00	00	122	38	00	900			1939			47
F7 4074	HONEYDEW 2 WSW	380	SEC 02	T03S	R01W	C H 40	14	18	124	09	00	900			1953			12
F7 4074-01	HONEYDEW HUNTER	380	SEC 02	T03S	R01W	M H 40	14	18	124	09	06	000			1955			12
F5 4077	HONOR CAMP 42	1875	SEC 31	T07N	R03E	K H 40	56	48	123	52	42	000			1956			12
F4 4082	HOOPA	350	SEC 25	T08N	R04E	H 41	03	00	123	40	00	900			1941			12
F4 4191	HYAMPOM	1260	SEC 25	T03N	R06E	H 40	37	00	123	28	00	900			1940			53
FO 4202	IDLEWILD HMS	1250	SEC 06	T17N	R04E	D H 41	54	00	123	46	12	900			1946			08
F3 4577	KLAMATH	25	SEC 15	T13N	R01E	H 41	31	00	124	02	00	900			1941			08
F6 4587	KNEELAND 10 SSE	2356	SEC 13	T03N	R02E	H 40	38	00	123	54	00	900			1954			12
F5 4602	KORBEL	150	SEC 28	T06N	R02E	P H 40	52	00	123	57	30	900			1937			12
F6 4690	LAKE MOUNTAIN		SEC 21	T05S	R07E	H 40	01	00	123	24	00	900			1939	1969		53

TABLE A-1 (CONTINUED)  
INDEX OF CLIMATOLOGICAL STATIONS  
NORTH COASTAL AREA

Station		Elevation (in Feet)	Section	Township	Range	40-Acre Tract	Base 8 Meridian	Latitude			Longitude			Cooperator Number	Cooperator's Index Number	Record Began	Record Ended	Years Missing	County Code
Number	Name							0	1	11	0	1	11						
F6 4698	LAKE PILLSBURY NO 2	1740	SEC 10	T18N	R10W	M	39	25			122	59		900		1964	1970		17
F1 4838	LAVA BEDS NAT MON	4770	SEC 28	T45N	R04E	H	41	43	48	121	30	30	900			1940		06	47
F6 4851	LAYTONVILLE	1640	SEC 01	T21N	R15W	M	39	42	00	123	29	00	900			1940			23
F2 4984-02	LITTLE SHASTA	2725	SEC 26	T45N	R05W	C	41	43	00	122	23	00	000			1960			47
F1 5081-01	LONG BELL STATION	4375	SEC 20	T42N	R05E	B	41	28	00	121	25	00	000			1958			25
F5 5244	MAD RIVER RANGER STA	2775	SEC 17	T01N	R06E	H	40	27	00	123	32	00	900			1943			53
F1 5505	MEDICINE LAKE	6660	SEC 10	T43N	R03E	M	41	35	00	121	37	00	900			1946			47
F6 5676	MINA 3 NW	2875	SEC 28	T05S	R07E	A	40	00	06	123	23	30	000			1927			53
F6 5711	MIRANDA 4 SE	263	SEC 30	T03S	R04E	H	40	11	00	123	47	00	900			1964			12
F6 5713	MIRANDA SPENGLER RCH	400	SEC 19	T03S	R04E	H	40	12		123	46		900			1939			12
F2 5783	MONTAGUE	2500	SEC 27	T45N	R06W	Q	41	43	42	122	31	36	000	045783		1888		05	47
F2 5785	MONTAGUE 3 E	2640	SEC 18	T45N	R05W	M	41	45	00	122	28	00	900			1948			47
F1 5941	MOUNT HERBON R S	4250	SEC 32	T46N	R01W	M	41	47	00	122	00	00	900			1942			47
F4 6032	MUMBO BASIN	5700	SEC 35	T39N	R06W	E	41	12	00	122	32	00	900			1946			53
F6 6050	MYERS FLAT	190	SEC 30	T02S	R03E	H	40	15	40	123	52	00	000			1950			12
F3 6328	OAK KNOLL RANGER STA	1963	SEC 12	T46N	R09W	M	41	50	00	122	51	00	900			1942			47
F6 6408	OLD HARRIS	2225	SEC 30	T04S	R05E	G	40	05	00	123	39	42	000			1956			12
F5 6497-01	ORICK 3 NNE	50	SEC 22	T11N	R01E	K	41	19	24	124	02	30	000			1950			12
F5 6497-02	ORICK ARCATA REDWOOD	75	SEC 22	T11N	R01E	K	41	19	24	124	02	36	000			1954			12
F5 6498	ORICK PRAIRIE CREEK	161	SEC 02	T11N	R01E	H	41	22	00	124	01	00	900			1937			12
F3 6508	ORLEANS	403	SEC 31	T11N	R06E	H	41	18	00	123	32	00	900			1885			12
F5 6745	PATRICKS PT ST PARK	250	SEC 26	T09N	R01W	L	41	08	12	124	09	00	804			1947			12
F7 6835-01	PETROLIA	175	SEC 03	T02S	R02W	L	40	19	30	124	16	48	000			1958			12
F7 6835-02	PETROLIA 4 NW	900	SEC 19	T01S	R02W	D	40	22	24	124	18	30	000			1953			12
F6 6976	PLASKETT	6580	SEC 27	T22N	R09W	A	39	44	12	122	51	24	000			1960			11
F6 7404	RICHARDSON GROVE	500	SEC 13	T05S	R03E	H	40	02		123	47		900			1961			12
F3 8025	SAWYERS BAR R S	2169	SEC 20	T40N	R11W	M	41	18	00	123	08	00	900			1931			47
F6 8045	SCOTIA	139	SEC 07	T01N	R01E	H	40	29	00	124	06	00	900			1926			12
F3 8083-01	SELIAD VALLEY R S	1371	SEC 11	T46N	R12W	R	41	50	36	123	11	42	905			1953			47
F7 8162	SHELTER COVE	55	SEC 16	T05S	R01E	H	40	02		124	04		900			1959			12
F6 8163	SHERWOOD VALLEY	2170	SEC 32	T20N	R14W	F	39	32	36	123	26	30	901			1958			23
F0 8311-01	SMITH RIVER 2 WNW	195	SEC 21	T18N	R01W	A	41	56	30	124	10	42	000			1951	1969		08
F0 8311-35	SMITH RIVER	55	SEC 26	T18N	R01W	H	41	55		124	08		000			1970			08
F3 8346-05	SOMESBAR UKONOM R S	727	SEC 33	T12N	R06E	H	41	23	00	123	28	00	905	FW8919		1965			12
F6 8490	STANDISH HICKEY PARK	850	SEC 03	T23N	R17W	F	39	52	30	123	43	30	900			1949			23
F6 8668	SUNNY BRAE	70	SEC 33	T06N	R01E	H	40	52	00	124	04	00	000			1965			12
F4 9024	TRINITY DAM VISTA PT	2500	SEC 16	T34N	R08W	M	40	48	00	122	46	00	900			1959			53
F1 9053	TULELAKE	4035	SEC 06	T47N	R05E	M	41	58	00	121	28	00	900			1932			47
F1 9057	TULELAKE INSP STA	4408	SEC 31	T44N	R07E	F	41	36		121	12		000	049057		1953	1969		25
F7 9177	UPPER MATTOLE	255	SEC 33	T02S	R01W	H	40	15	00	124	11	00	900			1886			12
F4 9490	WEAVERVILLE RANGER S	2050	SEC 12	T33N	R10W	M	40	44	00	122	56	00	900			1869			53
F2 9499	WEED FD	3593	SEC 01	T41N	R05W	M	41	26	00	122	23	00	900			1957			47
F6 9527	WEOIT 2 SE	600	SEC 12	T02S	R02E	H	40	18	29	123	53	40	000			1961			12
F7 9654	WHITEHORN	1050	SEC 15	T05S	R02E	E	40	01	18	123	56	12	000			1962			12
F6 9684	WILLITS 1 NE	1350	SEC 17	T18N	R13W	M	39	25	00	123	21		900			1950			23
F6 9685	WILLITS HOWARD RS	1925	SEC 05	T17N	R13W	M	39	21	00	123	19	00	900			1935			23
F6 9686	WILLITS NW PAC RR	1365	SEC 18	T18N	R13W	L	39	24	12	123	21	06	006			1911		05	23
F4 9694	WILLOW CREEK 1 NW	461	SEC 29	T07N	R05E	H	40	57		123	38		900			1968			53
F2 9866	YREKA	2631	SEC 27	T45N	R07W	M	41	43	00	122	38	00	900			1871			47
F6 9940	ZENIA 1 SSE	2880	SEC 22	T03S	R06E	G	40	11	18	123	28	54	000			1950			53
F6 9953	ZENIA-KEITTEPOM STORE	3600	SEC 35	T03S	R06E	H	40	10		123	27		900			1969			53

TABLE A-2  
STORAGE GAGE PRECIPITATION DATA  
NORTH COASTAL AREA

Station	Measuring Agency	1970-71 Season		
		Measurement Period	Precipitation in Inches	
NORTH COASTAL AREA				
<u>SMITH RIVER</u>				
Camp Six Lookout	DWR	6-23-70	7-27-71	135.03
<u>LOST RIVER-BUTTE VALLEY</u>				
Bray 10 WSW	DWR	6-23-70	7-27-71	26.59
Crowder Flat	DWR	6-24-70	8-11-71	26.91
Long Bell Station	DWR	6-25-70	7-29-71	33.63
Medicine Lake	DWR	6-25-70	7-29-71	52.63
<u>SHASTA-SCOTT VALLEYS</u>				
Gazelle Lookout	DWR	6-24-70	7-28-71	24.78
<u>KLAMATH RIVER</u>				
Beswick 7S	DWR	6-23-70	7-26-71	60.36
Blue Creek Mountain	DWR	6-22-70	7-26-71	156.10
<u>TRINITY RIVER</u>				
Board Camp Mountain	DWR	6-22-70	7-26-71	136.56
Mumbo Basin	DWR	6-24-70	7-28-71	69.23
<u>EEL RIVER</u>				
Plaskett	DWR	7-07-70	6-13-71	74.83

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## APPENDIX B

### SURFACE WATER MEASUREMENTS

This appendix presents surface water data for the 1971 water year, the period from October 1, 1970 to September 30, 1971. The data consist of daily mean discharges and station locations at two gages, and summary tables of monthly and annual unimpaired runoff from major streams.

In addition to data collected and published by the Department of Water Resources in this appendix, the U. S. Geological Survey collects and publishes data from many additional gaging stations for the same report area. This work is done under a federal-state cooperative contract, or through cooperative arrangements with other local or government agencies. The data published in the following reports together with this report present a comprehensive analysis of the water resources for the area:

1. "Water Resources Data for California  
Part 1. Surface Water Records  
Volume 1: Colorado River Basin, Southern Great  
Basin, and Pacific Slope Basins excluding  
Central Valley"  
United States Department of the Interior  
Geological Survey  
Prepared in cooperation with the California  
Department of Water Resources and with other  
agencies.
2. Bulletin 120, "Water Conditions in California",  
Fall Issue, Department of Water Resources.

Each of the two stations in this appendix has been assigned an identification number. The letter and first digit denote the drainage basin as shown below. The remaining digits further identify each of the stations.

#### North Coastal Area

F0 - Smith River	F4 - Trinity River
F1 - Lost River-Butte Valley	F5 - Mad River
F2 - Shasta-Scott Valleys	F6 - Eel River
F3 - Klamath River	F7 - Mattole River

TABLE B-1 ANNUAL UNIMPAIRED RUNOFF

Unimpaired runoff is defined as the flow that would occur naturally at a point in a stream if there were: (1) no upstream controls such as dams or reservoirs; (2) no artificial diversions or accretions; and (3) no change in ground water storage resulting from development.



## ANNUAL UNIMPAIRED RUNOFF

In Percent of Average

Water Year	Klamath River, Copco to Orleans	Salmon River at Somesbar	Trinity River at Lewiston	Eel River at Scotia
Average Annual Runoff *	4575	1246	1239	5381
1920-21			145	145
1921-22			63	69
1922-23			55	51
1923-24			21	16
1924-25			121	133
1925-26			65	61
1926-27			147	146
1927-28	83	88	85	86
1928-29	55	48	43	35
1929-30		61	66	65
1930-31	39	38	32	30
1931-32	73	84	58	67
1932-33	78	81	65	68
1933-34	48	47	55	46
1934-35	79	91	78	94
1935-36	87	92	83	107
1936-37	71	79	81	66
1937-38	173	179	170	200
1938-39	56	61	46	50
1939-40	99	102	130	136
1940-41	97	102	206	153
1941-42	101	106	146	138
1942-43	129	139	89	106
1943-44	60	51	53	42
1944-45	80	91	85	89
1945-46	112	122	114	112
1946-47	57	62	59	49
1947-48	93	99	97	88
1948-49	70	77	88	77
1949-50	89	95	69	77
1950-51	138	144	130	133
1951-52	145	157	147	149
1952-53	141	145	130	133
1953-54	134	128	128	129
1954-55	58	47	59	60
1955-56	181	176	164	190
1956-57	94	95	87	81
1957-58	179	181	217	217
1958-59	74	80	84	77
1959-60	75	76	83	87
1960-61	99	97	98	100
1961-62	71	77	84	73
1962-63	128	137	129	132
1963-64	87	90	64	64
1964-65	156	150	139	175
1965-66	103	89	109	96
1966-67	113	101	133	123
1967-68	74	76	82	79
1968-69	131	133	141	161
1969-70	138	128	128	139
1970-71 **	189	199	139	151

\* Average Unimpaired Runoff in Thousands of Acre-Feet Adjusted to the 50-Year Period October 1920 Through September 1970.

\*\*Preliminary Data Subject to Revision.



TABLE B-2  
MONTHLY UNIMPAIRED RUNOFF

In Percent of Average

Month		Klamath River, Copco to Orleans	Salmon River at Somesbar	Trinity River at Lewiston	Eel River at Scotia
October	Percent	75	55	58	36
1970	Average	89	22	22	55
November	Percent	365	468	316	359
1970	Average	218	56	47	284
December	Percent	185	180	144	263
1970	Average	511	130	102	939
January	Percent	268	344	210	168
1971	Average	678	168	116	1225
February	Percent	112	102	101	22
1971	Average	635	161	149	1177
March	Percent	223	209	149	185
1971	Average	604	161	150	796
April	Percent	151	119	94	90
1971	Average	640	183	218	550
May	Percent	169	157	130	91
1971	Average	601	195	247	237
June	Percent	175	225	124	101
1971	Average	346	110	126	79
July	Percent	173	217	133	113
1971	Average	129	36	37	22
August	Percent	137	164	76	113
1971	Average	68	15	14	10
September	Percent	104	149	61	122
1971	Average	56	11	9	7
1970-71 Water Year		189 8646	199 2474	139 1728	151 8140

**Note:** The Percent Values are Preliminary Data Subject to Revision.  
Average Unimpaired Runoff in Thousands of Acre-Feet Adjusted to  
the 50-Year Period October 1920 Through September 1970.

TABLE B-3 DAILY MEAN DISCHARGE

The streamflow table is arranged in downstream order for each stream or stream system. Stations on a tributary entering between two main stem stations are listed between those stations, and in downstream order on that tributary. A stream gaging station is named after the stream and the nearest post office (e.g., Little Shasta River near Montague).

The discharges estimated for periods of no record or invalid record are shown with the letter "E". Also qualified by the letter "E" are discharges obtained from extended ratings which exceed 140 percent of the highest measured flow-rate on which the rating curve was based.

The discharge figures in this table have been rounded off as follows:

1. Daily flows - cubic feet per second

0.0	- 9.9	nearest	Tenth
10	- 999	"	Unit
1,000	- 9,999	"	Ten
10,000	- 99,999	"	Hundred
100,000	- 999,999	"	Thousand

2. Monthly means - cubic feet per second

0.0	- 99.9	nearest	Tenth
100	- 9,999	"	Unit
10,000	- 99,999	"	Ten
100,000	- 999,999	"	Hundred

3. Yearly totals - acre-feet

0.0	- 9,999	nearest	Unit
10,000	- 99,999	"	Ten
100,000	- 999,999	"	Hundred
1,000,000	- 9,999,999	"	Thousand

**TABLE B-3**  
**DAILY MEAN DISCHARGE**  
(IN CUBIC FEET PER SECOND)

WATER YEAR	STATION NO.	STATION NAME
1971	F21300	LITTLE SHASTA RIVER NEAR MONTAGUE

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1	4.2	4.4	15	8.9	41	18	58	77	92	27	12	9.2	1
2	4.2	4.4	15	7.8	39	20	63	80	86	26	12	9.1	2
3	4.2	4.5	12	6.8	31	20	66	151	78	25	12	8.7	3
4	4.1	4.6 *	13	6.2	31	19	71	140	71	24	11	8.7	4
5	4.0	7.5	20	5.9	45	17	76	113	67	23	11	8.4	5
6	4.0	6.5	41	5.9	46	18	76	103	64	22	11	8.9	6
7	4.1	5.5	52	5.9	38	20	71	111	62	21	11	9.1	7
8	4.2 *	7.8	38	6.4	33	20	66	134	60	21 *	11	8.7	8
9	4.3	20	28 *	8.2	31	20	75	125	59 *	22	11	8.5 *	9
10	4.3	8.0	22	17	41	19	79	121	59	21	10	8.5	10
11	4.2	13	21	15	48	29	69	119	55	20	10	8.3	11
12	4.1	16	17	13	48	44	66	129	53	19	9.9	8.3	12
13	4.1	7.9	16	12	46	39	65	130	50	18	9.4	8.1	13
14	4.1	6.6	14	13	43	33	61	120	47	18	9.4	8.0	14
15	4.1	5.8	13	14	55	30	63	116	45	17	9.7	7.9	15
16	4.1	5.7	13	39	43	29	63	105	43	17	9.6	7.8	16
17	4.1	5.4	13	14.5	38	26	62	99	42	16	9.6	7.7	17
18	4.5	5.4	12	179	32	26	63	97 *	43	16	9.5	7.6	18
19	4.4	5.4	12	130	30	32	61	95	42	16	9.4	7.7	19
20	4.8	5.0	11	106	27	48	66	90	39	16	9.2	7.6	20
21	4.8	5.2	10	68 *	25	58	66 *	86	37	16	9.4	7.7	21
22	5.1	6.8	9.7	53	25	94	67	86	36	15	9.5	7.6	22
23	9.1	12	9.7	46	23 *	159	68	85	35	14	9.2	7.5	23
24	6.0	58	8.9	40	24	124	54	83	33	14	8.9	7.5	24
25	4.6	68	8.9	36	20	113	49	88	36	14	8.7	7.5	25
26	4.4	33	8.5	34	21	135	58	97	44	13	8.7 *	8.2	26
27	4.2	17	8.2	35	20	85	68	86	35	13	8.7	8.6	27
28	4.4	13	8.2	36	17	75	71	94	32	13	8.7	8.7	28
29	4.4	19	8.1	37		77	74	85	30	12	8.5	12	29
30	4.4	20	8.3	39		72	78	81	28	12	9.1	10	30
31	4.4		9.5	41		59		85		12	9.9		31
MEAN	4.5	13.4	16.0	39.0	34.3	50.9	66.4	104	50.1	17.8	9.9	8.4	MEAN
MAX.	9.1	68	52	179	55	159	79	151	92	27	12	12	MAX.
MIN.	4.0	4.4	8.1	5.9	17	17	49	77	28	12	8.5	7.5	MIN.
AC. FT.	277	796	984	2400	1906	3130	3953	6369	2981	1097	609	500	AC. FT.

**WATER YEAR SUMMARY**

E - ESTIMATED  
NR - NO RECORD  
\* - DISCHARGE MEASUREMENT OR  
OBSERVATION OF NO FLOW  
# - E AND \*

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT.	MO.	DAY	TIME	DISCHARGE	GAGE HT.	MO.	DAY	TIME	ACRE FEET
34.5	211	3.05	5	3	1915	2.9	0.96	10	27	1200	25000

LOCATION			MAXIMUM DISCHARGE			PERIOD OF RECORD		DATUM OF GAGE			
LATITUDE	LONGITUDE	1/4 SEC. T. & R. M.D.B.&M.	OF RECORD			DISCHARGE	GAGE HEIGHT ONLY	PERIOD		ZERO ON GAGE	REF. DATUM
			CFS	GAGE HT.	DATE			FROM	TO		
41 45 11	122 17 58	NW15 45N 4W	5910 E	10.66	12/22/64	28-NOV 51 8 APR 52-APR 55 SEP 56-DATE	28-NOV 51 8 APR 52-APR 55 SEP 56-DATE	1956	1964	0.00	LOCAL
Station located S of Ball Mountain Road, 12 mi. NE of Montague, 16 mi. SW of Macdoel. Stage-discharge relationship affected by ice at times. Drainage area is 48.2 sq. mi.											
8 - Irrigation season only.											



**TABLE B-3 (CONT.)**  
**DAILY MEAN DISCHARGE**  
 (IN CUBIC FEET PER SECOND)

WATER YEAR	STATION NO.	STATION NAME
1971	F42100	NORTH FORK TRINITY RIVER NEAR HELENA

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1	19	23	1340	502	1080	358	958	691	450	309	96	49	1
2	19 *	24	1110	477	1050	343	888	702	430	319	92	51	2
3	19	25	1040	430	948	352	853	785	440	303	88	47	3
4	19	147	800	393	849	358	853	833	460	286	82	43	4
5	19	545	802	362	781	340	890 *	854	487	271	77	40	5
6	19	386	1280	336	771	328	974	782	523	260	73	38	6
7	19	296	3070 *	319	746	324	960	825	546	242	70	38	7
8	20	550	2600	326 *	708	316	886	999	543 *	239 *	66	37	8
9	20	1840	1790	374	673	312	1070	888	521	250	63	36	9
10	20	711 *	1300	737	729	328	1190	884	496	208	60	34	10
11	20	582	1040	877	911	563	960	965	506	187	71	34	11
12	20	711	908	752	1010	1290	851	1060	479	182	84	33	12
13	20	506	828	663	1060	1020	828	976	457	185	72	31	13
14	20	387	745	600	967	826	843	827	456	195	62	29	14
15	20	311	757	837	979	692	859	776	465	208	56	29	15
16	20	259	951	3280	872	718	847	689	503	218	51	28	16
17	20	220	837	8400	754	831	791	612	483	272	48	27	17
18	22	187	720	8690	669	756	709	583 *	450	430	46	27	18
19	24	160	630	4850	598	694	662	607	435	260	44	27	19
20	39	138	590	3080	544	679	653 *	604	452	234	44	27	20
21	40	126	539	2220	502	696	611	558	445	218	44	27	21
22	48	320	483	1680	470	999	588	542	453	203	44	26	22
23	114	2030	447	1360	440 *	3460	567	615	427	182	44	26	23
24	103	5030	418	1150	436	2420	534	720	374	166	42	25	24
25	45	3240	397	998	440	2390	515	733	462	147	40	25	25
26	35	1790	381	909	409	4450	525	654	523	135	38 *	30	26
27	29	1480	367	894	407	2330	562	573	415	128	39	37	27
28	26	1400	390	909	387	1690	617	660	320	120	39	33	28
29	25	1250	406	914		1400	647	688	289	113	39	65	29
30	24	1430	411	963		1240	651	625	290	103	43 *	60	30
31	23		451	1050		1070		511		98	57		31
MEAN	30.0	870	898	1591	721	1083	778	736	453	215	58.5	35.3	MEAN
MAX.	114	5030	3070	8690	1080	4450	1190	1060	546	430	96	65	MAX.
MIN.	19	23	367	319	387	312	515	511	289	98	38	25	MIN.
AC. FT.	1845	51780	55200	97850	40050	66590	46300	45270	26940	13230	3598	2100	AC. FT.

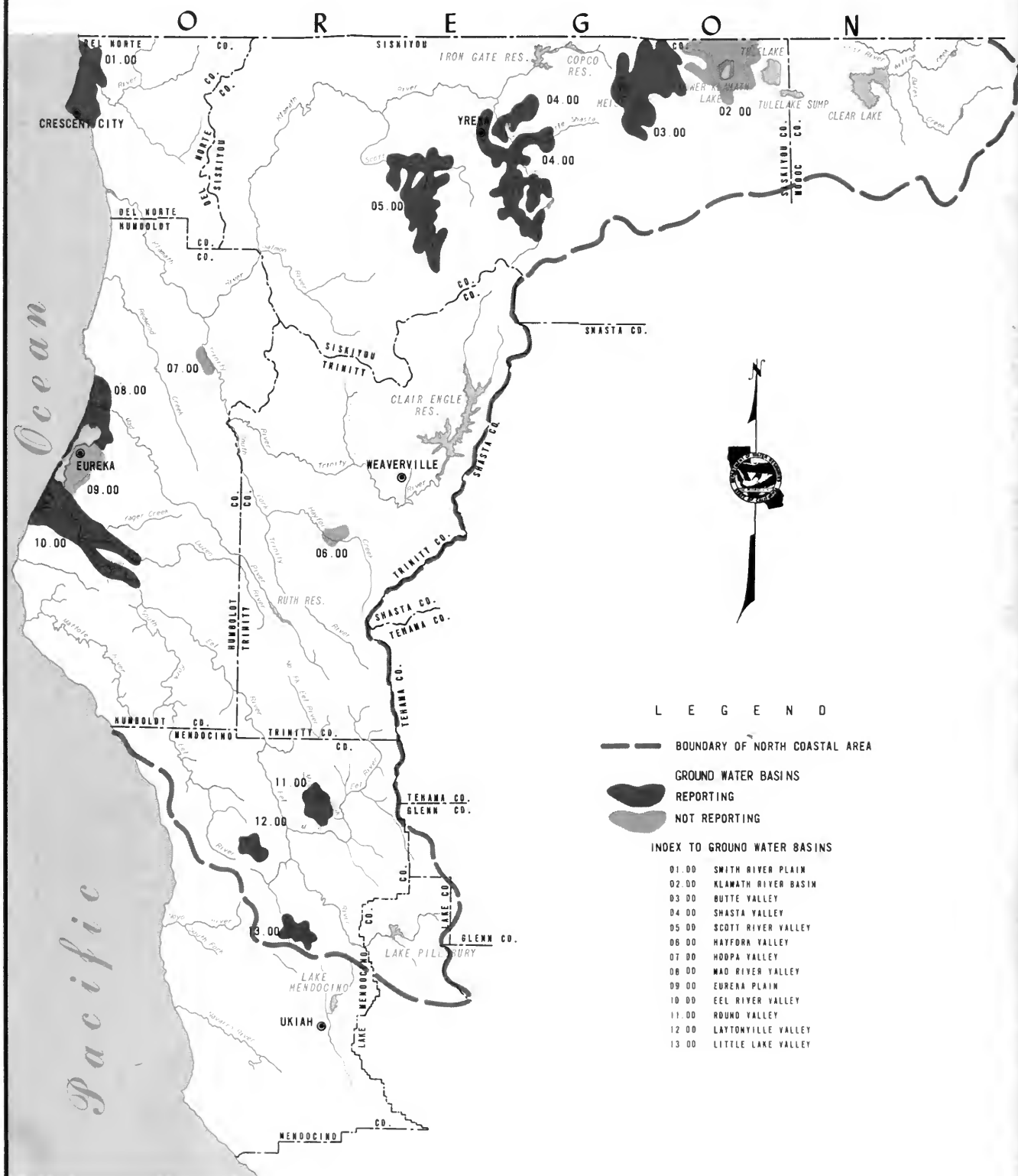
**WATER YEAR SUMMARY**

E - ESTIMATED  
 NR - NO RECORD  
 \* - DISCHARGE MEASUREMENT OR  
 OBSERVATION OF NO FLOW  
 # - E AND \*

MEAN	MAXIMUM	MINIMUM	TOTAL
DISCHARGE 623	DISCHARGE 11500	DISCHARGE 19	ACRE FEET 450800
	GAGE HT. 18.73	GAGE HT. 5.95	
	MO. DAY TIME 1 17 2030	MO. DAY TIME 10 1 0015	

LOCATION			MAXIMUM DISCHARGE			PERIOD OF RECORD		DATUM OF GAGE			
LATITUDE	LONGITUDE	1/4 SEC. T. & R. M.D.B.&M.	OF RECORD			DISCHARGE	GAGE HEIGHT ONLY	PERIOD		ZERO ON GAGE	REF. DATUM
			CFS	GAGE HT.	DATE			FROM	TO		
40 46 55	123 07 40	SW21 34N 11W	35800	27.93	12/22/64	JAN 57-DATE	JAN 57-DATE	1957		0.00	LOCAL

Station located 1.0 mi. above mouth, 0.6 mi. N of Helena. Stage-discharge relationship affected by ice at times. Drainage area is 151 sq. mi.



GROUND WATER BASINS, WATER LEVEL MEASUREMENTS



## APPENDIX C

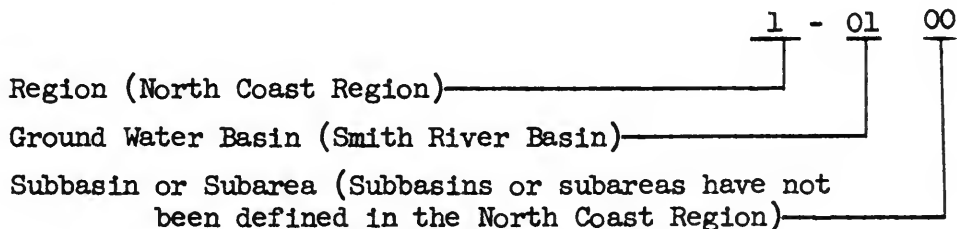
### GROUND WATER MEASUREMENTS

This appendix contains ground water level measurements from 44 wells for the period October 1, 1970 through September 30, 1971. It also contains a table which summarizes the measurements. Wells in the network are continuously reviewed and, when conditions dictate, replacement wells are located and measured.

There are nine ground water basins in the North Coastal Region for which data are reported.

Two numbering systems are used by the Department to facilitate the processing of water level measurement data. The two systems are the Region and Basin Designation and the State Well Numbering System as described below.

The regions are those of the California Regional Water Quality Control Boards whose geographic areas are defined in Section 13200 of the Water Code. That portion of Northern California covered by this report is included in the North Coast Region. A decimal system of the form 0-00.00 has been selected according to geographic regions, ground water basins, and subbasins or subareas as follows:



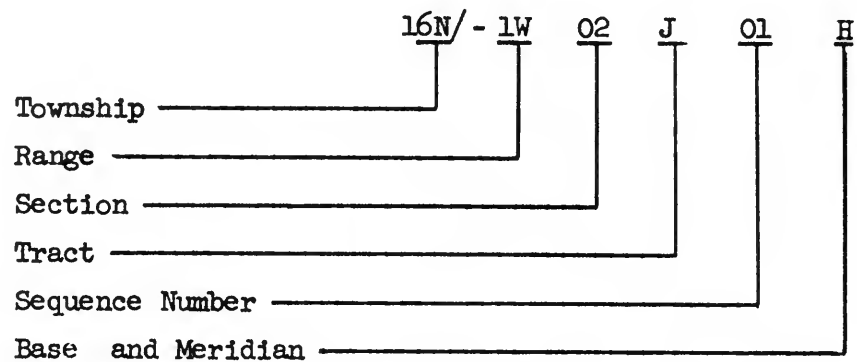
The State Well Numbering System is based on township, range, and section subdivisions of the Public Land Survey.

A section is divided into 40-acre tracts as follows:

D	C	B	A
E	F	G	H
M	L	K	J
N	P	Q	R

Sequence numbers in a tract are generally assigned in chronological order.

The number of a well, assigned in accordance with this system, is referred to as the State Well Number, as illustrated below:



This number identifies and locates the well. In the example, the well is in Township 16 North, Range 1 West, Tract J of Section 2, located in the Humboldt Base and Meridian.

TABLE C-1  
AVERAGE CHANGE OF GROUND WATER LEVELS  
AND SUMMARY OF WELL MEASUREMENTS REPORTED

Ground Water Basin		Average Change Spring 1970 to Spring 1971 in feet	Measuring Agency	Number of Wells Reported	
Name	Number			Fall 1970	Spring 1971

NORTH COASTAL REGION

Smith River Plain	1-01.00	+3.2	DWR	6	6
Butte Valley	1-03.00	+0.3	DWR	7	5
Shasta Valley	1-04.00	0.0	DWR	6	6
Scott River Valley	1-05.00	+1.8	DWR	5	5
Mad River Valley	1-08.00	+3.9	DWR	2	2
Eel River Valley	1-10.00	+0.9	DWR	4	4
Round Valley	1-11.00	+1.5	DWR	5	5
Laytonville Valley	1-12.00	+3.6	DWR	4	4
Little Lake Valley	1-13.00	+2.6	DWR	5	5

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DWR - Department of Water Resources

TABLE C-2 GROUND WATER LEVELS AT WELLS

An explanation of the column headings and the code symbols follows:

State Well Number - Refer to the explanation presented on page 17.

Ground Surface Elevation - The numbers in this column are the elevation in feet above mean sea level (USGS datum) of the ground surface at the well. Elevations are usually taken from topographic maps and the accuracy is controlled by topographic standards.

Date - The date shown in the column is the date when the depth measurement given in the next column was made.

Ground Surface to Water Surface - This is the measured depth in feet from the ground surface to the water surface in the well; some of the depth measurements in the column may be preceded by a number in parentheses to indicate a questionable measurement. The code applicable to these "questionable measurements" is as follows:

- |                                      |  |
|--------------------------------------|--|
| (1) Pumping                          | (6) Other                              |
| (2) Nearby pump operating            | (7) Recharge operation at or near well |
| (3) Casing leaking or wet            | (8) Oil in casing                      |
| (4) Pumped recently                  | (9) Caved or deepened measurement      |
| (5) Air or pressure gage measurement |  |

When a measurement was attempted, but could not be obtained, then only a number in parentheses is shown in the column. The code applicable to these "no measurements" is as follows:

- |                               |                               |
|-------------------------------|-------------------------------|
| (1) Pumping                   | (6) Well has been destroyed   |
| (2) Pump house locked         | (7) Special                   |
| (3) Tape hung up              | (8) Casing leaking or wet     |
| (4) Cannot get tape in casing | (9) Temporarily inaccessible  |
| (5) Unable to locate well     | (0) Measurements discontinued |

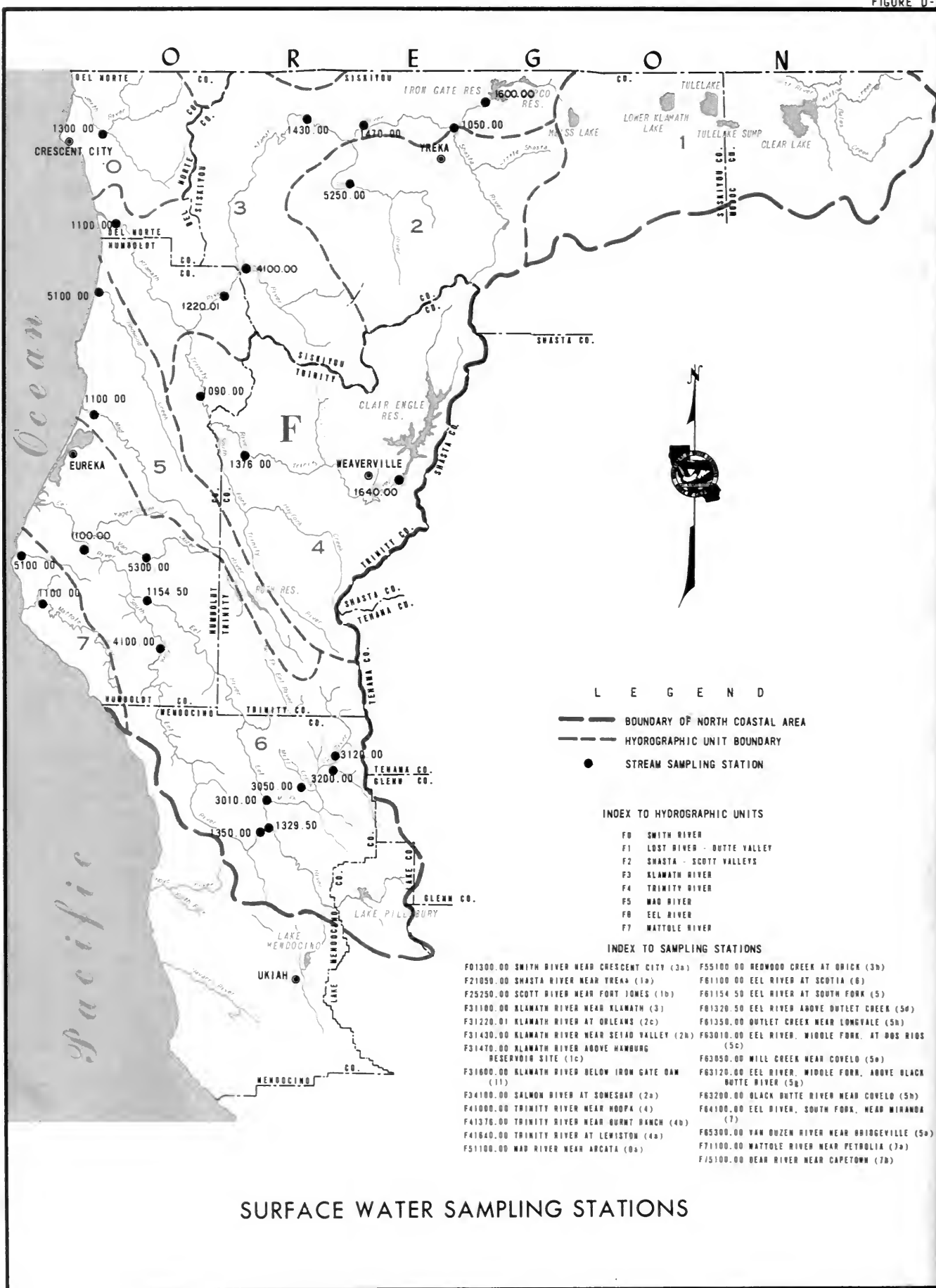
The words FLOW and DRY are shown in this column to indicate a flowing or dry well, respectively. A minus sign preceding the number in this column indicates that the static water level in the well is this distance in feet above the ground surface.

Water Surface Elevation - This is the elevation in feet above mean sea level (USGS datum) of the water surface in the well. It was derived by subtraction of the depth measurement from the ground surface elevation.

Agency Supplying Data - Each of these numbers is the code number for the agency supplying data for that measurement. The Department of Water Resources is the sole agency supplying ground water level measurement data for this report. It has been assigned an agency code number of 5050.

TABLE C-2  
GROUND WATER LEVELS AT WELLS  
NORTH COASTAL AREA

STATE WELL NUMBER	GROUND SURFACE ELEVATION IN FEET	DATE	GROUND SURFACE TO WATER SURFACE IN FEET	WATER SURFACE ELEVATION IN FEET	AGENCY SUPPLYING DATA	STATE WELL NUMBER	GROUND SURFACE ELEVATION IN FEET	DATE	GROUND SURFACE TO WATER SURFACE IN FEET	WATER SURFACE ELEVATION IN FEET	AGENCY SUPPLYING DATA
SMITH RIVER PLAIN 1-01.00						MAD RIVER VALLEY 1-08.00					
16N/01W-02J01 H	127.0	10-14-70 4-14-71	26.3 16.5	100.7 110.5	5050 5050	06N/01E-06H01 H	151.0	10-14-70 4-14-71	14.2 1.9	136.8 149.1	5050 5050
16N/01W-17K01 H	48.0	10-14-70 4-14-71	22.2 10.1	25.8 37.9	5050 5050	06N/01E-29P01 H	25.0	10-14-70 4-14-71	12.0 10.8	13.0 14.2	5050 5050
17N/01W-02P01 H	31.0	10-14-70 4-14-71	22.5 15.6	8.5 15.4	5050 5050	EEL RIVER VALLEY 1-10.00					
17N/01W-03R01 H	14.0	10-14-70 4-14-71	13.6 9.7	0.4 4.3	5050 5050	02N/01W-08B01 H	34.0	10-14-70 4-13-71	15.8 22.0	18.2 12.0	5050 5050
17N/01W-15M02 H	21.0	10-14-70 4-14-71	17.0 5.4	4.0 15.6	5050 5050	03N/01W-18D01 H	15.0	10-14-70 4-13-71	5.7 2.3	9.3 12.7	5050 5050
18N/01W-26P01 H	38.0	10-14-70 4-14-71	21.0 11.3	17.0 26.7	5050 5050	03N/01W-34J01 H	53.0	10-14-70 4-14-71	35.5 30.8	17.5 22.2	5050 5050
BUTTE VALLEY 1-03.00						03N/02W-36R01 H	12.0	10-14-70 4-13-71	11.5 5.6	0.5 6.4	5050 5050
46N/01E-06H01 M	424.2	10-06-70 4-06-71	24.0 18.5	4218.0 4223.5	5050 5050	ROUND VALLEY 1-11.00					
46N/02W-25R02 M	4256.0	10-06-70 4-06-71	32.8 25.2	4223.2 4230.8	5050 5050	22N/12W-04B01 M	1351.0	10-15-70 4-15-71	16.5 5.4	1334.5 1345.6	5050 5050
47N/01W-14B01 M	4234.0	10-06-70 4-06-71	9.3 7.8 (0)	4224.7 4226.2	5050 5050	22N/12W-06L03 M	1370.0	10-15-70 4-15-71	5.2 -11.5	1364.8 1381.5	5050 5050
47N/01W-17R01 M	4240.0	10-06-70 10-06-70	9.0 (0)	4231.0	5050	22N/13W-12R01 M	1400.0	10-15-70 4-15-71	30.9 4.8	1369.1 1395.2	5050 5050
47N/01W-19L01 M	4238.0	10-06-70 4-06-71	4.9 3.0	4233.1 4235.0	5050 5050	23N/13W-36C03 M	1410.0	10-15-70 4-15-71	31.9 8.0	1378.1 1402.0	5050 5050
47N/01W-27B01 M	4233.0	10-06-70 4-06-71	8.7 5.6	4224.3 4227.4	5050 5050	23N/13W-36Q01 M	1403.0	10-15-70 4-15-71	22.9 -0.1	1380.1 1403.1	5050 5050
48N/01W-26H01 M	4244.0	10-06-70 4-06-71	23.7 15.8	4220.3 4228.2	5050 5050	LAYTONVILLE VALLEY 1-12.00					
SHASTA VALLEY 1-04.00						21N/14W-30M01 M	1688.0	10-14-70 4-14-71	17.1 3.7	1670.9 1684.3	5050 5050
42N/05W-20J01 M	2882.0	10-07-70 4-07-71	3.1 5.1	2878.9 2876.9	5050 5050	21N/15W-01L02 M	1682.0	10-14-70 4-14-71	27.5 7.6	1654.5 1674.4	5050 5050
42N/06W-10J01 M	2835.0	10-07-70 4-07-71	13.9 5.9	2821.1 2829.1	5050 5050	21N/15W-12M02 M	1630.0	10-14-70 4-14-71	18.8 2.9	1611.2 1627.1	5050 5050
43N/06W-22A01 M	2665.0	10-07-70 4-07-71	(1) (1)		5050 5050	21N/15W-24A01 M	1653.0	10-14-70 4-14-71	13.5 1.9	1639.5 1651.1	5050 5050
44N/05W-34H1 M	2637.0	10-06-70 4-06-71	25.2 30.0	2611.8 2607.0	5050 5050	LITTLE LAKE VALLEY 1-13.00					
44N/06W-10P01 M	2537.0	10-06-70 4-06-71	13.4 25.6	2523.6 2511.4	5050 5050	18N/13W-08L01 M	1340.0	10-15-70 4-15-71	9.5 0.7	1330.5 1339.3	5050 5050
45N/06W-19B01 M	2538.0	10-06-70 4-06-71	21.0 16.0	2517.0 2522.0	5050 5050	18N/13W-17J01 M	1370.0	10-15-70 4-15-71	33.1 21.9	1336.9 1348.1	5050 5050
SCOTT RIVER VALLEY 1-05.00						18N/13W-18E01 M	1365.0	10-15-70 4-15-71	29.4 24.4	1335.6 1340.6	5050 5050
42N/09W-02A02 M	2746.0	10-07-70 4-07-71	11.4 4.8	2734.6 2741.2	5050 5050	19N/13W-32P01 M	1347.0	10-15-70 4-15-71	15.0 3.8	1332.0 1343.2	5050 5050
42N/09W-27H01 M	2930.0	10-07-70 4-07-71	7.9 1.6	2922.1 2928.4	5050 5050	19N/13W-32L02 M	1350.0	10-15-70 4-15-71	15.9 4.9	1334.1 1345.1	5050 5050
43N/09W-23P01 M	2728.0	10-07-70 4-07-71	6.1 2.8	2721.9 2725.2	5050 5050						
43N/09W-24P01 M	2735.0	10-07-70 4-07-71	8.9 3.0	2726.1 2732.0	5050 5050						
44N/09W-28P01 M	2711.0	10-07-70 4-07-71	21.8 4.5	2689.2 2706.5	5050 5050						



SURFACE WATER SAMPLING STATIONS

## APPENDIX D

### SURFACE WATER QUALITY

This appendix presents surface water quality data collected during the period from October 1, 1970, through September 30, 1971. The data were collected from 26 stream stations in the North Coastal area.

At the time of field sampling, dissolved oxygen, pH, and temperature measurements are made and gage height and time are noted. Comments on local conditions are noted in field books which are available in the files of the Department of Water Resources. The mineral constituents were determined in accordance with methods described in "Standard Methods for the Examination of Water and Waste Water", prepared and published jointly by the American Public Health Association, American Water Works Association, and Water Pollution Control Federation, 13th Edition, 1971. In some cases, the methods used were those presented in the U. S. Geological Survey Water-Supply Paper 1454, "Methods for Collection and Analysis of Water Samples", 1960. The analysis for trace elements is in accordance with the U. S. Geological Survey Water-Supply Paper 1540-B, "Concentration Method for the Spectro-Chemical Determination of Minor Elements in Water".

Each station in this appendix has been assigned a station number. The numbering system is described in Appendix B, "Surface Water Measurements". A sequential number (formerly employed) follows each station name for reference.





TABLE D-1  
SAMPLING STATION DATA AND INDEX  
North Coastal Area

Station	Station Number	Location*	Beginning of Record	Frequency of Sampling	Analyses on Page
Bear River at Capetown (7b)	F75100.00	01N/03W-13 H	MAY 1964	Semiannually	35, 37
Black Butte River near Covelo (5h)	F63200.00	23N/11W-28 M	NOV. 1964	Monthly	34, 37, 43
Eel River above Outlet Creek (5d)	F61329.50	21N/13W-32 M	APR. 1958	Monthly	32, 33, 36, 37, 41
Eel River at Scotia (6)	F61100.00	01N/01E-05 H	APR. 1951	Monthly	31, 32, 36, 37, 41
Eel River at South Fork (5)	F61154.50	01S/02E-26 H	APR. 1951	Monthly	32
Eel River, Middle Fork, at Dos Rios (5c)	F63009.01	21N/13W-06 M	APR. 1958	Monthly	33, 34, 36, 37, 41
Eel River, South Fork, near Miranda (7)	F64100.00	03S/04E-30 H	APR. 1951	Monthly	34, 35, 37, 43
Klamath River above Hamburg Reservoir Site (1c)	F31470.00	46N/10W-14 M	DEC. 1958	Bimonthly	29, 39
Klamath River at Orleans (2c)	F31220.01	11N/06E-31 H	JAN. 1964	Monthly	28, 36, 37
Klamath River below Iron Gate Dam (1f)	F31599.01	47N/05W-20 M	DEC. 1961	Monthly	29, 30, 36, 37, 40
Klamath River near Klamath (3)	F31100.00	13N/02E-19 H	APR. 1951	Monthly	28, 36, 37, 39
Klamath River near Seiad Valley (2b)	F31430.00	46N/12W-03 M	DEC. 1958	Monthly	28, 29, 36, 37, 39
Mad River near Arcata (6a)	F51100.00	06N/01E-15 H	NOV. 1958	Bimonthly	31, 36, 37
Mattole River at Petrolia (7a)	F71100.00	02S/02W-11 H	JAN. 1959	Semiannually	35, 37
Mill Creek near Covelo (5e)	F63050.00	22N/12W-22 M	FEB. 1965	Monthly	34, 43
Outlet Creek near Longvale (5b)	F61350.00	20N/14W-01 M	MAY 1958	Monthly	33, 37
Redwood Creek at Orick (3b)	F55100.00	10N/01E-04 H	NOV. 1958	Monthly	31, 37
Salmon River at Somesbar (2a)	F34100.00	11N/06E-03 H	NOV. 1958	Semiannually	30, 37
Scott River near Fort Jones (1b)	F25250.00	44N/10W-28 M	DEC. 1958	Bimonthly	27, 37
Shasta River near Yreka (1a)	F21050.00	46N/07W-24 M	DEC. 1958	Bimonthly	27, 37
Smith River near Crescent City (3a)	F01300.00	16N/01E-10 H	APR. 1951	Monthly	27, 37
Trinity River at Hoopa (4)	F41080.00	08N/04E-25 H	APR. 1951	Monthly	30, 36, 37, 40
Trinity River at Lewiston (4a)	F41646.00	33N/08W-17 M	APR. 1951	Bimonthly	30, 31, 37, 40
Trinity River near Burnt Ranch (4b)	F41376.00	05N/07E-19 H	APR. 1958	Bimonthly	30, 37, 40
Van Duzen River near Bridgeville (5a)	F65279.00	01N/02E-12 H	APR. 1958	Monthly	35, 37

\* H = Humboldt Base and Meridian  
M = Mount Diablo Base and Meridian

TABLE D-2 MINERAL ANALYSIS OF SURFACE WATER

Lab and Sampler Agency Codes

5000 - U. S. Geological Survey  
5050 - Department of Water Resources

Abbreviations

<u>TIME</u>	- Pacific Standard Time on a 24-hour clock.
<u>G.H.</u>	- Instantaneous gage height in feet above an established datum.
<u>Q</u>	- Instantaneous discharge measured in cubic feet per second (cfs). "E" indicates the value has been estimated.
<u>DEPTH</u>	- Depth at which sample was collected.
<u>DO</u>	- Dissolved oxygen content in milligrams per liter.
<u>SAT</u>	- Percent of normal dissolved oxygen saturation
<u>TEMP</u>	- Water temperature in degrees Fahrenheit (F) and Celsius (C).
<u>PH</u>	- Measure of acidity or alkalinity of water.
<u>EC</u>	- Electrical conductance in micromhos at 25° C.
<u>TDS</u>	- Gravimetric determination of total dissolved solids at 180° C
<u>SUM</u>	- Total dissolved solids by summation of analyzed constituents.
<u>TH</u>	- Total hardness.
<u>NCH</u>	- Noncarbonate hardness - any excess of total hardness over total alkalinity.
<u>TURB</u>	- Jackson Turbidity Units measured with a Hellige Turbidimeter (J) or a Hach Nephelometer (A).
<u>SAR</u>	- Sodium adsorption ratio.
<u>PERCENT REACTANCE</u>	
<u>VALUE</u>	- Determined by dividing the sum of the cations or anions in milliequivalents per liter into each constituent in milliequivalents per liter arriving at a percentage. For a partial analysis, an approximate value is determined by multiplying the electrical conductance by 0.01 and using that as the cation or anion sum.

Mineral Constituents

B	- Boron	K	- Potassium
CA	- Calcium	MG	- Magnesium
CL	- Chloride	NA	- Sodium
CO <sub>3</sub>	- Carbonate	NO <sub>3</sub>	- Nitrate
F	- Fluoride	SiO <sub>2</sub>	- Silica
HCO <sub>3</sub>	- Bicarbonate	SO <sub>4</sub>	- Sulfate

TABLE D-2  
MINERAL ANALYSIS OF SURFACE WATER  
North Coastal Area

DATE TIME	SAMPLER LAB	G.M. Q DEPTH	NO SAT	TEMP	FIELD LABORATORY PH EC	MINERAL CONSTITUENTS IN					MILLIGRAMS PER LITER MILLIEQUIVALENTS PER LITER					MILLIGRAMS PER LITER				
						CA	MG	NA	K	CO3	PERCENT HCO3	REFRACTANCE 504	CL	NO3	B SI02	TDS SUM	TH NCH	TURB SAR		
FO 1300.00 SMITH RIVER NEAR CRESCENT CITY																				
10/20/70 0715	5050 5050	6.69 365	11.0 101	52.7F 11.5C	7.5 8.1	156	--	--	2.6 .11 7	--	.0 .00	72 1.18 76	--	3.6 .10 6	--	.00 --	--		75	1E
11/09/70 1630	5050 5050	5.19 9500	12.2 113	54.0F 12.2C	7.4 7.7	94	--	--	1.4 .06 6	--	.0 .00	52 .85 90	--	.4 .01 1	--	.00 --	--		45	110E
12/08/70 0800	5050 5050	9.17 20600	12.6 110	49.0F 9.4C	7.3 7.8	80	--	--	1.5 .07 9	--	.0 .00	46 .75 94	--	2.1 .06 8	--	.00 --	--		38	160E
01/05/71 0830	5050 5050	1.90 4280	13.6 106	41.0F 5.0C	7.1 7.9	68	--	--	1.6 .07 8	--	.0 .00	47 .77 87	--	1.7 .05 6	--	.10 --	--		45	30E
02/02/71 0825	5050 5050	1.77 3460	13.5 110	44 F 7 C	7.3 8.0	89	--	--	1.3 .06 7	--	.0 .00	50 .82 92	--	3.8 .11 12	--	.00 --	--		44	25E
03/02/71 0745	5050 5050	1.53 3090	13.1 104	42 F 6 C	7.4 7.7	97	--	--	1.5 .07 7	--	.0 .00	54 .89 92	--	2.5 .07 7	--	.00 --	--		48	7E
04/06/71 0725	5050 5050	2.11 4450	12.7 108	47 F 8 C	7.1 7.7	82	--	--	1.5 .07 9	--	.0 .00	47 .77 94	--	1.7 .05 6	--	.00 --	--		39	30E
05/04/71 1410	5050 5050	1.16 3390	11.9 105	50 F 10 C	7.3 7.9	83	4.9 .24 27	6.6 .54 61	1.8 .08 9	.6 .02 2	.0 .00	49 .60 93	.0 .00	1.6 .05 6	.4 .01 1	.00 --	--	41 40	39 1	5E 0.1
06/21/71 1620	5050 5050	8.27 1030	10.5 110	64 F 18 C	7.4 8.3	103	--	--	2.0 .09 9	--	.0 .00	56 .92 89	--	2.0 .06 6	--	.00 --	--		49	0E
07/20/71 0700	5050 5050	7.19 607	4.8 105	66 F 19 C	7.6 7.6	126	--	--	2.1 .09 7	--	.0 .00	72 1.18 94	--	2.4 .07 6	--	.00 --	--		60	1E
08/16/71 1505	5050 5050	6.56 400	10.6 116	68 F 20 C	8.1 8.0	144	--	--	2.4 .10 7	--	.0 .00	80 1.31 91	--	3.7 .10 7	--	.00 --	--		75	1E
09/13/71 1545	5050 5050	6.39 330	10.8 118	68 F 20 C	8.1 8.3	148	9.0 .45 27	12 .99 59	5.3 .23 14	.5 .01 1	.0 .00	83 1.36 87	5.6 .12 8	3.0 .08 5	.1 .00	.00 --	--	70 76	71 4	1E 0.3
F2 1050.00 SHASTA RIVER NEAR YREKA																				
11/16/70 1100	5050 5050	3.48 230	11.2 97	48.2F 9.0C	8.2 8.3	526	--	--	45 1.96 37	--	.0 .00	304 4.98 95	--	27 .76 14	--	.50 --	--		207	5E
01/12/71 1130	5050 5050	3.65 301	12.0 94	41.0F 5.0C	8.2 8.2	482	--	--	32 1.39 29	--	.0 .00	279 4.57 95	--	19 .54 11	--	.50 --	--		200	5E
03/15/71 1250	5050 5050	4.85 888	11.5 96	46 F 8 C	8.4 8.4	487	28 1.40 25	32 2.63 47	34 1.48 27	2.7 .07 1	8.0 .27 5	267 4.38 81	11 .23 4	18 .51 9	.9 .01	.40 --	--	277 266	201 31	50E 1.0
05/10/71 1325	5050 5050		10.5 110	64 F 18 C	8.4 8.3	412	--	--	27 1.17 28	--	.0 .00	250 4.10 100	--	13 .37 9	--	.50 --	--		174	10E
07/06/71 1250	5050 5050	3.06 83	10.0 113	72 F 22 C	8.4 8.3	524	--	--	36 1.57 30	--	.0 .00	325 5.33 102	--	20 .56 11	--	.50 --	--		234	2E
09/21/71 1300	5050 5050	3.11 94	10.5 104	59 F 15 C	8.4 8.6	572	31 1.55 26	29 2.38 41	41 1.78 30	5.2 .16 3	13 .43 7	316 5.18 82	1.3 .03	25 .71 11	.1 .00	.50 --	--	358 302	221 84	1E 1.3
F2 5250.00 SCOTT RIVER NEAR FORT JONES																				
11/16/70 1515	5050 5050	5.50 358	10.4 90	48.2F 9.0C	7.3 8.3	176	16 .80 41	12 .49 51	3.0 .13 7	.9 .02 1	.0 .00	103 1.69 90	4.3 .09 5	3.0 .08 4	1.2 .02 1	.10 --	--	95 91	90 5	3E 0.1
01/12/71 1600	5050 5050	6.64 864	11.5 86	38 F 3 C	7.2 8.1	194	--	--	2.9 .13 7	--	.0 .00	112 1.84 95	--	3.6 .10 5	--	.10 --	--		101	8E
03/15/71 1515	5050 5050	7.25 1170	11.2 94	46 F 8 C	7.5 8.1	194	--	--	3.0 .13 7	--	.0 .00	115 1.88 97	--	7.4 .21 11	--	.10 --	--		98	9E
05/10/71 1600	5050 5050		11.2 104	54 F 12 C	7.4 8.1	130	--	--	2.0 .09 7	--	.0 .00	68 1.11 85	--	.5 .01 1	--	.00 --	--		53	30E
07/06/71 1545	5050 5050	6.17 510	9.9 108	68 F 20 C	7.5 8.0	174	17 .85 45	11 .49 49	2.8 .12 6	.9 .02 1	.0 .00	103 1.69 92	3.0 .06 3	1.7 .05 3	1.7 .03 2	.00 --	--	99 89	86 3	1E 0.1
09/21/71 1600	5050 5050	5.18 92	12.8 134	64 F 18 C	8.2 8.2	294	--	--	5.1 .22 7	--	.0 .00	174 2.85 97	--	3.0 .08 3	--	.00 --	--		153	2E

TABLE D-2 (Continued)  
MINERAL ANALYSIS OF SURFACE WATER  
North Coastal Area

DATE TIME	SAMPLER LAB	G.M. D DEPTH	DO SAT	TEMP	FIELD LABORATORY PH EC	MILLIGRAMS PER LITER MILLIEQUIVALENTS PER LITER										MILLIGRAMS PER LITER				
						MINERAL CONSTITUENTS IN				PERCENT REACTANCE VALUE						8	F SI02	TDS SUM	TH NCH	TURB SAR
						CA	MG	NA	K	CO3	HCO3	SO4	CL	NO3						
F3		1100.00	KLAMATH RIVER NEAR KLAMATH																	
10/19/70 1425	5050 5000	3150	10.4 102	55 13	F 7.9 C 7.9	227	20 1.00 41	9.7 .80 33	13 .57 24	2.1 .05 2	.0 .00	120 1.97 82	13 .27 11	5.3 .15 6	.1 .00	.00 28.0	150	90 9	1A 0.6	
11/09/70 1500	5050 5000	8.35 12900	11.5 106	53 12	F 7.4 C 7.5	126	12 .60 48	5.6 .46 37	3.8 .17 13	1.0 .03 2	.0 .00	56 .92 77	9.0 .19 16	2.0 .06 5	1.1 .02 2	.00 20.0	82	53 7	170A 0.2	
12/07/70 1545	5050 5000	8.62 84900	12.1 104	48 9	F 7.5 C 7.5	120	12 .60 50	5.2 .43 36	3.6 .16 13	.9 .02 2	.0 .00	62 1.02 84	7.0 .15 12	1.4 .04 3	.2 .00	.0 13.0	74	52 1	60A 0.2	
01/05/71 1010	5050 5000	12.5 22700	39.2F 95	7.0 4.0C	7.6	167	15 .75 46	7.7 .63 38	5.3 .23 14	1.0 .03 2	.0 .00	83 1.36 86	7.0 .15 9	1.9 .05 3	1.0 .02 1	.30 17.0	97	69 1	45A 0.3	
02/01/71 1600	5050 5000	3.56 31500	12.6 107	47 8	F 7.6 C 7.8	136	15 .75 50	6.7 .55 36	4.1 .18 12	1.0 .03 2	.0 .00	75 1.23 86	7.0 .15 10	1.4 .04 3	.7 .01 1	.10 15.0	88	65 4	57A 0.2	
03/01/71 1630	5050 5000	9.16 18000	12.7 103	44 7	F 7.5 C 7.8	154	15 .75 48	6.3 .52 33	6.0 .26 17	1.1 .03 2	-- .00	80 1.31 85	7.0 .15 10	2.0 .06 4	.4 .01 1	.50 17.0	95	63	20A 0.3	
04/06/71 0910	5050 5000	11.4 44000	50 101	F 7.6 C 7.8	7.6	143	16 .80 51	6.6 .54 34	4.8 .21 13	1.0 .03 2	-- .00	79 1.29 90	7.0 .15 10	2.0 .06 4	.4 .01 1	.06 16.0	93	67	60A 0.3	
05/03/71 1455	5050 5000	10.9 29400	52.0F 99	7.5 11.1C	7.9	123	13 .65 50	5.7 .47 36	3.7 .16 12	.8 .02 2	-- .00	71 1.16 94	3.8 .08 7	1.6 .05 4	.0 .00	.05 15.0	79	56	30A 0.2	
06/22/71 0825	5050 5000	4.21 13200	9.2 102	63 17	F 7.4 C 7.3	112	12 .60 51	5.0 .41 35	3.2 .14 12	.6 .02 2	.0 .00	66 1.08 87	4.6 .10 8	2.2 .06 5	.1 .00	.03 12.0	74 72	51 4	10A 0.2	
07/20/71 0900	5050 5000	5.81 6000	8.9 101	71.6F 22.0C	7.5 8.1	144	16 .80 53	6.1 .50 33	4.3 .19 13	1.2 .03 2	.0 .00	86 1.41 85	8.8 .18 11	2.1 .06 4	.0 .00	.10 13.0	94 94	65 6	40A 0.2	
08/17/71 0840	5050 5000	4.77 3640	9.0 99	68.9F 20.5C	7.8 6.1	186	19 .95 50	7.4 .61 32	6.9 .30 16	1.3 .03 2	.0 .00	109 1.79 88	7.5 .16 6	3.0 .08 4	.1 .00	.07 15.0	114 114	78 12	1A 0.3	
09/13/71 1425	5050 5000	4.74 3680	9.7 108	69.8F 21.0C	8.0 7.9	208	19 .95 45	8.8 .72 34	9.3 .40 19	1.9 .05 2	.0 .00	118 1.93 83	12 .25 11	4.9 .14 6	.1 .00	.01 18.0	132 132	84 13	3A 0.4	
F3		1220.01	KLAMATH RIVER AT ORLEANS																	
10/19/70 1110	5050 5050	1.65 2110	11.6 110	55.4F 13.0C	8.0 7.7	215	-- --	-- 7.4 34	17 --	-- --	.0 .00	115 1.88 87	-- --	6.6 .19 9	-- --	.10 --	-- --	88	10E	
11/09/70 1245	5050 5050	1.11 24300	12.1 108	51.0F 10.5C	7.5 7.4	118	-- --	-- .21 18	4.8 --	-- --	.0 .00	67 1.10 93	-- --	1.6 .05 4	-- --	.00 --	-- --	49	110E	
12/07/70 1215	5050 5050	6.63 58400	13.0 116	45.0F 7.2C	7.3 7.6	125	-- --	-- .20 16	4.6 --	-- --	.0 .00	65 1.07 86	-- --	2.1 .06 5	-- --	.00 --	-- --	53	360E	
01/04/71 1425	5050 5050	7.56 11100	14.1 107	39.2F 4.0C	7.4 7.8	176	-- --	-- .33 19	7.5 --	-- --	.0 .00	88 1.44 82	-- --	3.2 .09 5	-- --	.10 --	-- --	78	35E	
02/01/71 1200	5050 5050	0.10 18700	13.6 109	43 6	F 7.6 C 7.8	142	-- --	-- .21 15	4.9 --	-- --	.0 .00	77 1.26 89	-- --	1.9 .05 4	-- --	.00 --	-- --	70	70E	
03/01/71 1215	5050 5050	7.72 11600	13.6 108	42 6	F 7.5 C 7.8	163	-- --	-- .31 19	7.2 --	-- --	.0 .00	84 1.38 85	-- --	3.3 .09 6	-- --	.00 --	-- --	66	45E	
04/05/71 1235	5050 5050	2.14 24600	12.1 107	50 10	F 7.6 C 7.9	147	-- --	-- .28 19	6.4 --	-- --	.0 .00	78 1.28 87	-- --	1.8 .05 3	-- --	.10 --	-- --	61	80E	
05/03/71 1100	5050 5050	1.21 19500	11.7 105	51 11	F 7.4 C 7.7	114	10 .50 42	5.8 .48 40	4.2 .18 15	1.2 .03 3	.0 .00	64 1.05 94	2.1 .04 4	.7 .02 2	.5 .01 1	.10 --	53 56	50 4	50E 0.3	
06/21/71 1050	5050 5050	7.90 8750	11.2 111	59 15	F 7.4 C 8.3	98	-- --	-- .13 13	3.0 --	-- --	.0 .00	55 .90 92	-- --	.2 .01 1	-- --	.10 --	-- --	44	6E	
07/19/71 1155	5050 5050	4.93 3820	9.3 104	70 21	F 7.7 C 8.0	144	-- --	-- .25 17	5.7 --	-- --	.0 .00	81 1.33 92	-- --	2.8 .07 5	-- --	.00 --	-- --	63	10E	
08/16/71 1115	5050 5050	3.09 2250	9.9 110	70 21	F 7.9 C 7.8	188	-- --	-- .37 20	8.4 --	-- --	.0 .00	103 1.69 90	-- --	4.8 .14 7	-- --	.20 --	-- --	79	1E	
09/13/71 1125	5050 5050	2.96 2180	10.0 107	66 19	F 7.9 C 8.0	206	18 .90 41	8.0 .66 30	13 .57 26	2.1 .05 2	.0 .00	108 1.77 82	12 .25 12	4.4 .12 6	.5 .01	.10 --	112 111	78 11	1E 0.6	
F3		1430.00	KLAMATH RIVER NEAR SEIAD VALLEY																	
10/06/70 1245	5050 5050	11.9 1560	57 14	F 8.4 C 7.9	248	-- --	-- --	19 .83 33	-- --	-- --	.0 .00	125 2.05 83	-- --	7.4 .21 8	1.2 .02 1	.20 --	-- --	86	2E	
11/16/70 1345	5050 5050	11.2 4040	48.2F 4.0C	7.9 7.7	267	-- --	-- --	24 1.04 39	-- --	-- --	.0 .00	120 1.97 74	-- --	8.0 .23 9	3.5 .06 2	.10 --	-- --	89	6E	

TABLE D-2 (Continued)  
MINERAL ANALYSIS OF SURFACE WATER  
North Coastal Area

DATE TIME	SAMPLER LAB	G.H. O DEPTH	00 SAT	TEMP	FIELD LABORATORY PH EC	MINERAL CONSTITUENTS IN					MILLIGRAMS PER LITER MILLIEQUIVALENTS PER LITER PERCENT REACTANCE VALUE					MILLIGRAMS PER LITER				
						CA	MG	NA	K	CO3	HCO3	SO4	CL	NO3		B SI02	F	TDS SUM	TH NCH	TURB SAR
.....																				
F3 1430.00 KLAMATH RIVER NEAR SEIAO VALLEY						CONTINUED														
01/12/71 1415	5050 5050	5740	12.9 95	37 3	F 7.3 C 8.0	230	--	--	15 .65 28	--	.0 .00	111 1.82 79	--	6.1 .17 7	3.1 .05 2	.20	--		91	9E
02/17/71 1215	5050 5050	5910	12.3 99	43 6	F 7.7 C 7.9	196	--	--	11 .48 24	--	.0 .00	102 1.67 85	--	4.9 .14 7	1.2 .02 1	.10	--		78	12E
03/15/71 1445	5050 5050	7160	12.4 100	43 6	F 7.9 C 8.3	210	--	--	11 .48 23	--	.0 .00	109 1.79 85	--	4.1 .12 6	.8 .01	.20	--		86	19E
04/13/71 1145	5050 5050	10800	10.8 95	50 10	F 7.6 C 7.9	172	--	--	8.9 .39 23	--	.0 .00	92 1.51 88	--	2.8 .08 5	.6 .01 1	.00	--		76	55E
05/10/71 1450	5050 5050	12700	11.4 108	55 13	F 7.8 C 7.9	143	12 .60 41	6.4 .53 36	7.4 .32 22	1.3 .03 2	.0 .00	76 1.25 89	5.6 .12 9	1.0 .03 2	.7 .01 1	.00	--	95 72	55 6	11E 0.4
06/03/71 1140	5050 5050	8140	11.2 109	58.1F 14.5C	7.8 8.0	171	--	--	10 .44 26	--	.0 .00	86 1.41 82	--	3.8 .11 6	.0 .00	.00	--		64	25E
07/06/71 1430	5050 5050	2240	10.8 117	67.1F 19.5C	8.1 8.0	185	--	--	8.5 .37 20	--	.0 .00	107 1.75 95	--	5.1 .14 8	.0 .00	.10	--		71	2E
08/05/71 1120	5050 5050	1500	10.0 113	72 22	F 8.3 C 7.9	201	--	--	11 .48 24	--	.0 .00	109 1.79 89	--	5.6 .16 8	.2 .00	.20	--		75	2E
09/21/71 1450	5050 5050	2080	11.3 119	64 18	F 8.2 C 7.6	220	15 .75 33	9.4 .77 34	16 .70 31	2.3 .06 3	.0 .00	113 1.85 86	7.2 .15 7	4.4 .12 6	1.4 .02 1	.10	--	156 111	76 17	2E 0.8
F3 1470.00 KLAMATH RIVER ABOVE HAMBURG RESERVOIR SITE																				
11/16/70 1240	5050 5050	3300	10.9 92	46.4F 8.0C	7.6 7.6	288	--	--	30 1.31 45	--	.0 .00	123 2.02 70	--	8.4 .24 8	4.0 .06 2	.10	--		86	6E
01/12/71 1330	5050 5050	3590	13.1 95	36.0F 2.2C	7.4 8.0	253	--	--	21 .91 36	--	.0 .00	113 1.85 73	--	8.0 .23 9	4.1 .07 3	.20	--		87	13E
03/15/71 1335	5050 5050	4680	12.6 100	42 6	F 8.0 C 8.6	224	--	--	16 .70 31	--	5.0 .17 8	99 1.62 72	--	5.1 .14 6	.9 .01	.20	--		85	15E
05/10/71 1410	5050 5050	7440	11.3 109	57 14	F 7.9 C 7.7	157	11 .55 34	6.9 .57 36	10 .44 28	1.7 .04 3	.0 .00	79 1.29 88	4.9 .10 7	2.0 .06 4	1.2 .02 1	.10	--	94 77	56 9	20E 0.6
07/06/71 1340	5050 5050	920	10.5 117	70 21	F 8.1 C 7.8	204	--	--	12 .52 25	--	.0 .00	108 1.77 87	--	5.6 .16 8	.1 .00	.10	--		75	4E
09/21/71 1345	5050 5050	1810	11.3 116	63 17	F 8.2 C 7.3	213	14 .70 32	8.5 .70 32	16 .70 32	2.9 .07 3	.0 .00	107 1.75 85	8.4 .17 8	4.2 .12 6	1.6 .03 1	.10	--	153 108	70 18	1E 0.8
F3 1599.01 KLAMATH RIVER BELOW IRON GATE DAM																				
10/06/70 1030	5050 5050	1330	9.1 88	57 14	F 7.8 C 7.8	208	--	--	18 .78 37	--	.0 .00	100 1.64 79	--	4.7 .13 6	2.1 .03 1	.20	--		72	3E
11/16/70 1130	5050 5050	3070	9.8 83	46.4F 8.0C	7.4 7.6	276	--	--	29 1.26 46	--	.0 .00	108 1.77 64	--	6.7 .19 7	4.2 .07 3	.10	--		77	7E
12/14/70 1130	5050 5050	5000	12.4 94	39.2F 4.0C	7.3 7.4	201	--	--	17 .74 37	--	.0 .00	88 1.44 72	--	4.6 .13 6	4.0 .06 3	.10	--		62	20E
01/12/71 1215	5050 5050	3290	13.0 93	35.0F 1.7C	7.1 7.8	225	--	--	20 .87 39	--	.0 .00	89 1.46 65	--	4.9 .14 6	4.6 .07 3	.20	--		66	7E
02/17/71 1030	5050 5050	3460	11.8 92	41 5	F 7.5 C 7.4	195	12 .60 30	6.3 .52 26	18 .78 40	2.6 .07 4	.0 .00	88 1.44 67	29 .60 28	3.4 .10 5	.5 .01	.00	--	115	56 16	8E 1.0
03/15/71 1210	5050 5050	3790	12.7 96	39 4	F 7.3 C 8.0	188	--	--	16 .70 37	--	.0 .00	81 1.33 71	--	4.0 .11 6	.6 .01 1	.10	--		62	10E
04/13/71 1015	5050 5050	7160	10.8 95	50 10	F 7.5 C 7.8	145	--	--	11 .48 33	--	.0 .00	72 1.18 81	--	2.8 .08 6	.5 .01 1	.10	--		45	25E
05/10/71 1245	5050 5050	6900	12.1 112	54 12	F 7.6 C 7.5	136	--	--	11 .48 35	--	.0 .00	62 1.02 75	--	1.9 .05 4	1.1 .02 1	.10	--		43	10E
06/03/71 0955	5050 5050	4880	10.6 105	59 15	F 7.4 C 7.6	155	--	--	12 .52 34	--	.0 .00	66 1.08 70	--	3.9 .11 7	.0 .00	.00	--		48	10E
07/06/71 1145	5050 5050	836	11.7 127	67.1F 19.5C	8.1 7.3	160	--	--	12 .52 33	--	.0 .00	77 1.26 79	--	3.6 .10 6	.3 .00	.10	--		49	4E
08/05/71 0945	5050 5050	1000	8.7 99	72 22	F 8.2 C 8.3	164	11 .55 34	6.2 .51 31	12 .52 32	2.1 .05 3	.0 .00	83 1.36 74	10 .21 12	4.1 .12 7	2.0 .03 2	.20	--	104 88	53 15	7E 0.7

TABLE D-2 (Continued)  
MINERAL ANALYSIS OF SURFACE WATER  
North Coastal Area

DATE TIME	SAMPLER LAB	G.M. DEPTH	NO SAT	TEMP	FIELD LABORATORY PH EC	MINERAL CONSTITUENTS IN				MILLIGRAMS PER LITER MILLIEQUIVALENTS PER LITER PERCENT REACTANCE VALUE				MILLIGRAMS PER LITER							
						CA	MG	NA	K	CO3	HCO3	SO4	CL	NO3	B	F	TDS SUM	TH NCH	TURB SAR		
F3 1599.01 KLAMATH RIVER BELOW IRON GATE DAM CONTINUED																					
09/21/71 1155	5050 5050	1720	9.8 101	61 17	F C	7.9 7.3	190	--	--	15 .65 34	--	.00	89 1.46 77	--	2.2 .06 3	1.7 .03 2	.00	--	60	2E	
F3 4100.00 SALMON RIVER AT SOMESBAK																					
10/19/70 1700	5050 5050	4.04 123	11.3 105	53.6F 12.0C	8.0 8.0	163	1.10 64	4.9 .40 23	3.8 .17 10	1.7 .04 2	.00	82 1.34 84	8.2 .17 11	2.8 .08 5	.00	.00	--	104 84	75 8	3E 0.2	
06/21/71 1150	5050 5050	6.77 3360	11.4 108	55 13	F C	7.2 7.7	54	7.2 .36 64	1.2 .10 18	1.8 .08 14	.6 .02 4	.00	28 .46 90	2.1 .04 8	.3 .01 2	.00	.10	--	48 27	23 0	4E 0.2
F4 1080.00 TRINITY RIVER AT HOOPEA																					
10/19/70 1015	5050 5050	3.85 530	10.0 94	55.0F 12.8C	7.6 8.3	206	--	--	4.4 .19 9	--	.00	102 1.67 81	--	6.6 .19 9	.00	.10	--	102	2E		
11/09/70 1145	5050 5050	1.78 12700	10.4 97	54.0F 12.2C	7.0 7.3	181	--	--	2.8 .12 7	--	.00	90 1.48 82	--	2.6 .07 4	2.0 .03 2	.00	--	82	350E		
12/07/70 1110	5050 5050	5.33 23200	10.5 98	48.0F 8.9C	7.5 7.7	136	--	--	2.1 .09 7	--	.00	72 1.18 87	--	2.4 .07 5	.1 .00	.10	--	64	420E		
01/04/71 1325	5050 5050	8.75 6100	13.6 103	39.2F 4.0C	7.3 8.0	170	--	--	2.6 .11 6	--	.00	91 1.49 88	--	2.3 .06 4	.1 .00	.00	--	84	55E		
02/01/71 1100	5050 5050	0.50 10100	12.3 100	44 7	F C	7.5 8.2	147	18 .90 60	5.8 .46 32	2.5 .11 7	.9 .02 1	.00	81 1.33 90	4.3 .09 6	2.2 .06 4	.1 .00	.00	--	83 74	69 3	65E 0.1
03/01/71 1125	5050 5050	7.85 4100	12.8 100	41 5	F C	7.5 7.8	156	--	--	2.4 .10 6	--	.00	84 1.38 88	--	1.5 .04 3	.00	.00	--	76	45E	
04/05/71 1055	5050 5050	0.02 9920	10.5 93	50 10	F C	7.6 7.9	148	--	--	2.6 .11 7	--	.00	86 1.41 95	--	2.6 .07 5	.1 .00	.00	--	72	70E	
05/03/71 1010	5050 5050	9.03 7260	10.7 97	52 11	F C	7.4 7.5	136	--	--	2.4 .10 7	--	.00	73 1.20 88	--	1.0 .03 2	.1 .00	.00	--	65	70E	
06/21/71 0940	5050 5050	6.41 2590	9.6 99	63 17	F C	7.5 7.7	133	--	--	2.6 .11 8	--	.00	73 1.20 90	--	1.9 .05 4	.00	.00	--	62	8E	
07/19/71 1030	5050 5050	5.53 1660	8.4 94	70 21	F C	7.3 7.5	124	--	--	2.6 .11 9	--	.00	66 1.08 87	--	3.3 .09 7	.2 .00	.00	--	58	190E	
08/16/71 1015	5050 5050	4.24 690	9.9 54	20 7	F C	7.8 8.0	194	--	--	3.8 .17 9	--	.00	102 1.67 86	--	4.0 .11 6	.00	.10	--	92	1E	
09/13/71 1020	5050 5050	4.12 642	9.8 107	68 20	F C	8.0 8.0	202	25 1.25 60	7.7 .63 30	4.4 .19 9	1.3 .03 1	.00	107 1.75 82	12 .25 12	4.6 .13 6	.6 .01	.00	--	106 108	94 7	1E 0.2
F4 1376.00 TRINITY RIVER NEAR BURNT WANCH																					
11/09/70 1045	5050 5050	11.4 6700	99	49.0F 9.4C	7.2 7.4	81	--	--	2.0 .09 11	--	.00	39 .64 79	--	2.2 .06 7	1.1 .02 2	.00	--	36	160E		
01/04/71 1145	5050 5050	13.0 1900	96	37.4F 3.0C	7.4 8.2	173	--	--	2.9 .13 8	--	.00	94 1.54 89	--	4.0 .11 6	.00	.10	--	97	2E		
03/01/71 1015	5050 5050	13.1 1350	101	40 4	F C	7.5 7.9	152	--	--	2.8 .12 8	--	.00	84 1.38 91	--	1.5 .04 3	.00	.00	--	72	2E	
05/03/71 0850	5050 5050	11.0 2830	97	50 10	F C	7.4 7.9	117	13 .65 52	5.7 .47 38	2.5 .11 9	.6 .02 2	.00	64 1.05 94	1.3 .03 3	1.3 .04 4	.1 .00	.10	--	56 56	55 4	3E 0.1
07/19/71 0940	5050 5050	9.3 885	102	68 20	F C	7.3 7.4	90	--	--	2.4 .10 11	--	.00	50 .82 91	--	2.8 .08 9	.1 .00	.00	--	40	25E	
09/13/71 0920	5050 5050	9.5 343	102	66 19	F C	7.7 7.6	157	17 .65 52	6.9 .57 35	4.2 .18 11	1.2 .03 2	.00	84 1.38 85	4.1 .09 6	5.6 .16 10	.00	.00	--	76 80	71 2	1E 0.2
F4 1640.00 TRINITY RIVER AT LEWISTON																					
11/04/70 0855	5050 5050	3.35 245	10.5 92	44.0F 9.4C	7.1 7.6	105	--	--	4.2 .18 17	--	.00	56 .92 88	--	5.7 .16 15	.8 .01 1	.00	--	42	6E		
01/04/71 1040	5050 5050	2.96 153	11.4 99	41.0F 5.0C	7.1 8.0	88	--	--	2.2 .10 11	--	.00	49 .80 91	--	2.1 .06 7	.6 .01 1	.10	--	44	3E		
02/01/71 0845	5050 5050	2.94 157	11.0 88	43 6	F C	7.3 7.9	92	4.7 .23 27	6.2 .51 60	2.1 .09 11	.6 .02 2	.00	46 .75 94	.00	1.4 .04 5	.6 .01 1	.00	--	40 38	37 1	3E 0.2
03/01/71 0955	5050 5050	2.99 150	12.0 95	42 6	F C	7.3 7.5	86	--	--	2.2 .10 12	--	.00	48 .79 92	--	1.5 .04 5	.00	.00	--	41	4E	

TABLE D-2 (Continued)  
MINERAL ANALYSIS OF SURFACE WATER  
North Coastal Area

DATE TIME	SAMPLE LAB	G.H. DEPTH	DO SAT	TEMP	FIELD LABORATORY PH EC		MINERAL CONSTITUENTS IN				MILLIGRAMS PER LITER MILLIEQUIVALENTS PER LITER				MILLIGRAMS PER LITER				
							CA	MG	NA	K	CO3	PERCENT HCO3	S04 REACTANCE	CL VALUE	NO3	B SIO2	F	IDS SUM	TH NCH
F4 1640.00 TRINITY RIVER AT LEWISTON CONTINUED																			
05/03/71 0730	5050 5050	4.43 824	10.9 89	44 7	F 7.1 C 7.1	83	-- --	-- --	2.0 .09 11	-- --	.0 .00 .75 90	46 --	-- --	.8 .02 2	.1 .00	.00 --	-- --	38 2E	
07/19/71 0800	5050 5050	2.99 150	11.3 105	54 12	F 7.2 C 7.4	84	-- --	-- --	2.3 .10 12	-- --	.0 .00 .79 94	48 --	-- --	2.1 .06 7	.0 .00	.00 --	-- --	40 2E	
09/13/71 0750	5050 5050	3.23 238	9.7 84	48 9	F 7.4 C 7.5	84	4.4 .22 24	6.8 .56 62	2.3 .10 11	.8 .02 2	.0 .00 .80 93	49 --	1.3 .03 3	1.0 .03 3	.0 .00	.00 --	32 41	39 1	1E 0.2
F5 1100.00 MAD RIVER NEAR ARCAT																			
11/10/70 0930	5050 5050	7.88 2120	10.9 99	52.0F 11.1C	7.3 7.3	124	-- --	-- --	3.2 .14 11	-- --	.0 .00 .92 74	56 --	-- --	3.8 .11 9	-- --	.10 --	-- --	53 230E	
01/05/71 1150	5050 5050	7.12 1560	13.3 101	39.2F 4.0C	7.1 7.8	111	-- --	-- --	2.6 .11 10	-- --	.0 .00 .87 78	53 --	-- --	2.0 .06 5	-- --	.10 --	-- --	50 100E	
03/01/71 1445	5050 5050	7.50 1740	12.1 101	46 8	F 7.1 C 7.6	109	.13 .65 59	2.8 .23 21	3.8 .17 15	1.9 .05 5	.0 .00	.48 .79 81	3.8 .08 8	3.4 .10 10	.9 .01 1	.00 --	93 53	44 5	100E 0.2
05/03/71 1430	5050 5050	6.88 960	10.5 95	52 11	F 7.3 C 7.5	121	-- --	-- --	3.1 .13 11	-- --	.0 .00 .97 80	59 --	-- --	1.9 .05 4	-- --	.00 --	-- --	54 90E	
07/19/71 1430	5050 5050	4.69 40	10.3 117	72 22	F 8.2 C 8.2	216	.33 1.65 71	5.5 .45 19	4.4 .19 8	1.2 .03 1	.0 .00	.114 1.87 82	.13 .27 12	4.9 .14 6	.0 .00	.00 --	124 118	106 12	1E 0.2
09/14/71 0850	5050 5050	4.67 27	10.6 109	63 17	F 7.9 C 8.2	212	-- --	-- --	4.2 .18 8	-- --	.0 .00 1.88 89	115 --	-- --	3.9 .11 5	-- --	.10 --	-- --	103 2E	
F5 5100.00 REDWOOD CREEK AT ORICK																			
10/20/70 0900	5050 5050	5.12 70	10.0 92	53.6F 12.0C	7.1 7.5	156	-- --	-- --	5.8 .25 16	-- --	.0 .00 .85 54	52 --	-- --	8.3 .23 15	-- --	.00 --	-- --	63 15E	
11/10/70 0830	5050 5050	10.6 1930	10.6 99	54.0F 12.2C	7.3 7.4	117	.16 .60 72	1.4 .12 11	3.4 .15 14	1.4 .04 4	.0 .00	.42 .69 64	.12 .25 23	1.0 .12 11	.02 .02 2	.00 --	82 60	46 12	1400E 0.2
12/08/70 1000	5050 5050	0.17 4910	11.6 102	50.0F 10.0C	7.1 7.4	74	-- --	-- --	2.4 .10 14	-- --	.0 .00 .52 70	32 --	-- --	3.2 .09 12	-- --	.10 --	-- --	30 560E	
01/05/71 1100	5050 5050	7.63 1460	12.9 98	39.2F 4.0C	7.0 7.6	84	-- --	-- --	2.5 .11 13	-- --	.0 .00 .56 67	34 --	-- --	2.9 .08 10	-- --	.10 --	-- --	35 90E	
02/01/71 1515	5050 5050	7.17 930	11.8 102	48 9	F 7.1 C 7.6	88	.13 .65 76	.8 .07 8	2.8 .12 14	.8 .02 2	.0 .00	.38 .62 70	6.4 .13 15	4.7 .13 15	.2 .00	.00 --	48 47	36 5	65E 0.2
03/01/71 1545	5050 5050	7.66 1440	12.2 102	46 8	F 7.1 C 7.5	90	-- --	-- --	2.8 .12 13	-- --	.0 .00 .59 66	36 --	-- --	3.3 .09 10	-- --	.00 --	-- --	38 90E	
04/06/71 1005	5050 5050	7.52 1350	11.2 99	50 10	F 7.2 C 7.4	82	-- --	-- --	2.8 .12 15	-- --	.0 .00 .61 74	37 --	-- --	3.1 .09 11	-- --	.00 --	-- --	32 70E	
05/03/71 1415	5050 5050	7.11 850	10.7 97	52 11	F 7.2 C 7.4	90	-- --	-- --	2.6 .11 12	-- --	.0 .00 .61 68	37 --	-- --	2.4 .07 8	-- --	.00 --	-- --	38 60E	
06/22/71 0930	5050 5050	5.66 156	10.6 107	61 16	F 7.3 C 8.3	129	-- --	-- --	4.3 .19 15	-- --	.0 .00 .98 76	60 --	-- --	4.0 .11 9	-- --	.00 --	-- --	56 1E	
07/20/71 0955	5050 5050	5.47 106	10.0 105	64 13	F 7.3 C 7.5	146	-- --	-- --	4.7 .20 14	-- --	.0 .00 1.08 74	66 --	-- --	5.0 .14 10	-- --	.00 --	-- --	64 2E	
08/16/71 1330	5050 5050	5.26 47	10.0 112	70.7F 21.5C	7.2 7.7	156	-- --	-- --	5.0 .22 14	-- --	.0 .00 1.15 74	70 --	-- --	6.2 .17 11	-- --	.10 --	-- --	70 1E	
09/13/71 1335	5050 5050	5.17 33	10.7 117	68 20	F 7.4 C 7.7	160	-- --	-- --	4.7 .20 13	-- --	.0 .00 1.18 74	72 --	-- --	7.2 .20 13	-- --	.00 --	-- --	69 2E	
F6 1100.00 EEL RIVER AT SCOTIA																			
10/20/70 1525	5050 5000	14.5 200	14.5 145	59.9F 15.5C	8.3 8.3	353	.44 2.20 58	.13 1.07 28	1.6 .48 1	.0 .04 1	.0 .00	.186 3.05 82	.25 .52 14	6.0 .17 5	.1 .00	.00 19.0	164 211	2A 11	0.4
11/10/70 1630	5050 5000	6.02 18000	10.7 103	57 14	F 7.8 C 7.7	180	.20 1.00 54	6.6 .54 25	5.7 .29 14	1.9 .05 3	.0 .00	.75 1.23 68	.18 .37 20	5.5 .16 9	2.8 .05 3	.10 18.0	.2 115	77 16	225A 0.3
12/08/70 1330	5050 5000	3.51 64600	10.4 99	53 12	F 7.4 C 7.1	139	.14 .70 49	5.6 .46 32	4.9 .21 15	1.9 .05 4	.0 .00	.62 1.02 74	.11 .23 17	4.1 .12 9	.9 .01 1	.20 12.0	.2 85	58 7	30A 0.3
01/05/71 1400	5050 5000	12.6 10900	98	41.0F 5.0C	7.1 7.7	197	.17 .85 45	9.1 .75 39	6.2 .27 14	1.4 .04 2	.0 .00	.89 1.46 78	.15 .31 16	3.7 .10 5	.7 .01 1	.20 12.0	.1 109	80 7	53A 0.3
02/07/71 1515	5050 5000	3.22 6820	11.5 102	50 10	F 7.6 C 7.4	190	.22 1.10 55	7.1 .63 32	5.4 .23 12	1.1 .03 2	.0 .00	.93 1.52 79	.16 .33 17	2.9 .08 4	.2 .00	.10 11.0	.0 112	86 11	65A 0.3

TABLE D-2 (Continued)  
MINERAL ANALYSIS OF SURFACE WATER  
North Coastal Area

DATE TIME	SAMPLER LAB	G.M. DEPTH	NO SAT	TEMP	FIELD LABORATORY PH EC	MINERAL CONSTITUENTS IN				MILLIGRAMS PER LITER MILLIEQUIVALENTS PER LITER				MILLIGRAMS PER LITER						
						CA	MG	NA	K	CO3	PERCENT HCO3	REACTANCE SO4	CL	VALUE NO3	B S102	F SUM	TDS NCH	TH SAR		
.....																				
F6		1100.00	EEL RIVER AT SCOTIA										CONTINUED							
03/02/71 1215	5050 5000	1.91 3600	13.7 118	48 F 9 C	8.2 7.5	295	24 1.20 40	16 1.32 44	9.3 .40 13	3.5 .09 3	--	121 1.98 67	33 .69 23	9.7 .27 9	2.2 .04 1	.01 13.0	.3	172	130	20A 0.4
04/06/71 1315	5050 5000	7300	10.6 100	55.0F 12.8C	7.6 7.8	167	21 1.05 59	6.0 .49 28	4.9 .21 12	.9 .02 1	--	89 1.46 87	12 .25 15	2.5 .07 4	.00	.01 12.0	.0	103	77	20A 0.2
05/04/71 1745	5050 5000	4370	10.3 97	55.0F 12.8C	8.1 8.0	253	26 1.30 48	13 1.07 39	7.2 .31 11	1.6 .04 1	--	121 1.98 78	23 .48 19	7.0 .20 8	.00	.01 13.0	.1	151	120	5A 0.3
06/23/71 0815	5050 5000	0.03 766	9.5 102	66.2F 19.0C	7.9 7.3	234	29 1.45 60	7.8 .64 27	6.5 .28 12	1.1 .03 1	.0	130 2.13 84	15 .31 12	4.0 .11 4	.00	.3 6.8	135 134	100 2	1A 0.3	
07/20/71 1315	5050 5000	9.33 336	10.0 120	77.0F 25.0C	8.1 8.1	270	36 1.80 61	9.4 .77 26	7.8 .34 12	1.2 .03 1	.0	155 2.54 82	20 .42 14	4.1 .12 4	.00	.1 8.2	164 163	130 2	1A 0.3	
08/17/71 1305	5050 5000	8.96 187	10.7 126	75.2F 24.0C	8.1 8.2	296	36 1.80 59	9.8 .81 27	8.8 .38 13	1.4 .04 1	.0	165 2.70 90	8.3 .17 6	4.7 .13 4	.05 .01	.01 9.7	.1 160	161 5	130 0.3	1A 0.3
09/14/71 1415	5050 5000	8.80 171	14.7 170	73.4F 23.0C	8.4 8.4	289	36 1.80 58	11 .90 29	8.8 .38 12	1.7 .04 1	.30 1.00 30	98 1.61 49	23 .48 15	6.9 .19 6	.00	.02 7.7	.2 173	174 5	140 0.3	1A 0.3
F6		1154.50	EEL RIVER AT SOUTH FORK																	
10/21/70 0815	5050 5050	80	9.8 94	56.3F 13.5C	7.6 8.2	349	46 2.30 62	12 .99 27	8.2 .36 10	1.4 .04 1	.0	163 2.67 74	37 .77 21	6.9 .19 5	.02 .00	.20 --	--	211 192	166 31	1E 0.3
11/10/70 1400	5050 5050	7650	10.6 102	57.0F 13.9C	7.7 7.3	178	--	--	4.0 .17 10	--	.0	77 1.26 71	--	2.3 .06 3	.10 --	--	--	78	260E	
12/08/70 1415	5050 5050	32500	11.8 104	50.0F 10.0C	7.9 7.8	123	--	--	2.6 .11 9	--	.0	66 1.08 88	--	1.3 .04 3	.10 --	--	--	57	760E	
01/05/71 1445	5050 5050	4640	13.0 101	41.0F 5.0C	7.6 7.8	162	--	--	3.2 .14 9	--	.0	84 1.38 85	--	3.0 .08 5	.10 --	--	--	73	65E	
02/02/71 1600	5050 5050	5340	12.0 102	47 F 8 C	7.6 8.1	152	--	--	3.5 .15 10	--	.0	79 1.29 85	--	1.9 .05 3	.10 --	--	--	74	90E	
03/02/71 1315	5050 5050	1740	12.0 99	45 F 7 C	7.5 7.7	184	--	--	4.0 .17 9	--	.0	88 1.44 78	--	3.0 .08 4	.00 --	--	--	88	45E	
04/06/71 1425	5050 5050	4870	10.5 99	55 F 13 C	7.7 8.0	160	--	--	3.8 .17 11	--	.0	84 1.38 86	--	2.7 .08 5	.10 --	--	--	71	80E	
05/04/71 1830	5050 5050	2690	10.3 98	56 F 13 C	8.3 8.3	164	--	--	4.3 .19 12	--	.0	83 1.36 83	--	1.4 .04 2	.10 --	--	--	78	40E	
06/23/71 0850	5050 5050	470	9.5 104	68 F 20 C	7.8 8.2	217	28 1.40 63	6.9 .57 26	5.0 .22 10	1.3 .03 1	.0	111 1.82 83	15 .31 14	2.5 .07 3	.00	.10 --	--	114 113	99 8	1E 0.2
07/20/71 1350	5050 5050	160	9.4 114	77.9F 25.5C	7.9 8.1	273	--	--	6.6 .29 11	--	.0	140 2.29 84	--	3.8 .11 4	.00 --	--	--	132	1E	
08/17/71 1345	5050 5050	70	10.0 113	72 F 22 C	7.8 8.1	301	--	--	7.1 .31 10	--	.0	150 2.46 82	--	4.6 .13 4	.40 --	--	--	146	1E	
09/14/71 1445	5050 5050	60	9.0 104	73 F 23 C	7.8 8.2	314	--	--	7.2 .31 10	--	.0	154 2.52 80	--	7.1 .20 6	.10 --	--	--	154	2E	
F6		1329.50	EEL RIVER ABOVE OUTLET CREEK NEAR DOS RIOS																	
10/21/70 1235	5050 5050	1.92 10	10.5 98	54.5F 12.5C	7.9 8.3	282	--	--	11 .48 17	--	.0	120 1.97 70	--	8.9 .25 9	.03 .00	.60 --	--	119	10E	
11/11/70 0900	5050 5050	2.76 205	10.5 99	55.0F 12.8C	7.5 7.9	181	20 1.00 55	5.3 .48 27	6.8 .30 17	1.1 .03 2	.0	82 1.34 75	13 .27 15	4.8 .14 8	2.4 .04 2	.40 --	--	108 95	74 7	50E 0.3
12/09/70 0930	5050 5050	9.23 5720	11.9 100	46.0F 7.8C	7.3 7.6	108	--	--	2.9 .13 12	--	.0	56 .92 85	--	1.8 .05 5	.1 .00	.20 --	--	48	230	
01/06/71 1300	5050 5050	4.43 978	13.2 99	38.3F 3.5C	7.2 8.0	136	--	--	3.8 .17 12	--	.0	68 1.11 82	--	2.2 .06 4	.03 .00	.20 --	--	67	40E	
02/03/71 0910	5050 5050	4.55 990	12.8 101	42 F 6 C	7.6 7.8	122	--	--	3.6 .16 13	--	.0	64 1.11 91	--	1.0 .03 2	.01 .00	.00 --	--	54	70E	
03/03/71 0900	5050 5050	2.69 136	11.8 99	46 F 8 C	7.7 8.0	179	21 1.05 57	6.4 .53 29	5.4 .23 13	.7 .02 1	.0	84 1.46 84	9.7 .20 11	3.0 .08 5	.00	.20 --	--	129 90	79 6	5E 0.3
04/07/71 0955	5050 5050	3.71 349	10.7 97	52 F 11 C	7.8 7.9	157	--	--	4.4 .19 12	--	.0	80 1.31 83	--	3.0 .08 5	.1 .00	.10 --	--	68	15E	



TABLE D-2 (Continued)  
MINERAL ANALYSIS OF SURFACE WATER  
North Coastal Area

DATE TIME	SAMPLE LAB	G.M. Q	NO DEPTH	TEMP	FIELD LABORATORY PH	EC	MINERAL CONSTITUENTS IN										MILLIGRAMS PER LITER MILLIEQUIVALENTS PER LITER										MILLIGRAMS PER LITER							
							CA	MG	NA	K	CO3	HCO3	SO4	CL	NO3	VALUE	B	F	TOS SUM	TH NCH	TURB SAR													
.....																																		
F6		1329.50		EEL RIVER ABOVE OUTLET CREEK NEAR ODS RIOS															CONTINUED															
05/05/71	5050	3.42	9.9	57	F	7.7		--	--	4.7	--	.0	.83	--	1.9	.1	.10	--													79	10E		
0825	5050	260	95	14	C	7.7	169			.20		.00	1.36		.05	.00		--																
										12			60		3																			
06/23/71	5050	2.65	11.1	77	F	8.2		--	--	8.3	--	--	116	--	3.7	.0	.30	--													94	2E		
1205	5050	30	133	25	C	8.3	221			.36			1.90		.10	.00		--																
										16			86		5																			
07/21/71	5050	2.56	6.8	75	F	7.5		--	--	9.8	--	.0	114	--	4.7	.0	.30	--													106	1E		
0645	5050	13	80	24	C	7.7	240			.43		.00	1.87		.13	.00		--																
										18			78		5																			
08/18/71	5050	2.46	8.2	70	F	7.9		--	--	9.8	--	.0	112	--	5.5	.0	.50	--													103	1E		
0815	5050	10	91	21	C	8.1	239			.43		.00	1.84		.16	.00		--																
										18			77		7																			
09/15/71	5050	2.43	7.0	68	F	7.6		--	--	10	--	.0	122	--	6.2	.1	.40	--													109	2E		
0750	5050	8.4	76	20	C	7.9	250			.44		.00	2.00		.17	.00		--																
										18			80		7																			
F6		1350.00		OUTLET CREEK NEAR LONGVALE																														
10/20/70	5050		10.0	55.4F	7.9		--	--	17	--	.0	128	--	36	--	2.80	--														136	1E		
1215	5050	3.4	95	13.0C	8.0	342			.74		.00	2.10		1.02			--																	
									22			61		30																				
11/11/70	5050		10.6	54.0F	7.3		--	--	12	--	.0	53	--	6.4	1.7	.40	--													87	52	85E		
0845	5050	244	99	12.2C	7.5	132		5.4	.44	.25	.03	.00	.87	.13	.18	.03		--												65	9	0.3		
									45			72		11																				
12/09/70	5050	4.51	11.5	48.0F	7.1		--	--	2.8	--	.0	38	--	2.8	--	.10	--														32	115E		
0900	5050	1730	99	8.9C	7.6	74			.12		.00	.62		.08			--																	
									16			84		11																				
01/06/71	5050	3.15	13.0	39.2F	7.3		--	--	3.8	--	.0	56	--	5.7	--	.20	--														47	7E		
1325	5050	375	99	4.0C	7.8	111			.17		.00	.92		.16			--																	
									15			83		14																				
02/03/71	5050	2.36	12.3	43	F	7.8		--	--	5.7	--	.0	69	--	5.9	--	.30	--													62	7E		
0850	5050	150	99	6	C	7.8	138		.25		.00	1.13		.17			--																	
									18			82		12																				
03/05/71	5050	2.06	11.7	46	F	7.4		--	--	6.2	--	.0	79	--	6.0	--	.40	--													67	4E		
0830	5050	85	98	8	C	7.7	160		.27		.00	1.29		.17			--																	
									17			81		11																				

TABLE D-2 (Continued)  
MINERAL ANALYSIS OF SURFACE WATER  
North Coastal Area

DATE TIME	SAMPLER LAB	G.M. O DEPTH	DO SAT	TEMP	FIELD LABORATORY PH EC	MINERAL CONSTITUENTS IN				MILLIGRAMS PER LITER MILLIEQUIVALENTS PER LITER				MILLIGRAMS PER LITER				TURB SAR		
						CA	MG	NA	K	CO3	PERCENT HCO3	SO4	CL	NO3	B	F 5102	TDS SUM		TH NCH	
.....																				
F6		3009.01		EEL RIVER MIDDLE FORK AT DOS RIUS										CONTINUED						
07/21/71 0750	S050 S050	8.39 64	8.7 101	73 F 23 C	7.9 8.0	260	--	--	6.8 .30 12	--	.0 .00	119 1.95 75	--	5.4 .15 6	.1 .00	.00 --	--	118	2E	
08/18/71 0910	S050 S050	8.10 22	9.6 109	71.6F 22.0C	8.0 8.3	306	--	--	8.1 .35 11	--	.0 .00	123 2.02 66	--	11 .31 10	.0 .00	.20 --	--	143	1E	
09/15/71 0845	S050 S050	8.03 16	9.4 103	68 F 20 C	8.0 8.0	318	--	--	9.8 .43 14	--	.0 .00	106 1.74 55	--	15 .42 13	.1 .00	.20 --	--	141	1E	
F6		3050.00		MILL CREEK NEAR COVFLO																
11/11/70 1015	S050 S050	8.28 22	9.9 93	55.0F 12.8C	7.4 7.5	208	--	--	6.8 .30 14	--	.0 .00	89 1.46 70	--	5.5 .16 8	2.3 .04 2	.00 --	--	66	15E	
12/09/70 1245	S050 S050	5.66 350	11.0 93	47.0F 4.3C	7.3 7.8	126	12 .60 45	6.1 .50 38	4.1 .18 14	1.6 .04 3	.0 .00	65 1.07 88	4.8 .10 8	1.4 .04 3	.8 .01 1	.10 --	--	64 63	55 2	90E 0.2
01/06/71 1130	S050 S050	5.66 130	12.8 95	37.4F 3.0C	7.1 7.7	196	--	--	4.9 .21 11	--	.0 .00	104 1.70 87	--	3.0 .08 4	.8 .01 1	.10 --	--	96	3E	
02/03/71 1045	S050 S050	8.61 94	11.2 90	43 F 6 C	7.5 8.0	230	--	--	6.0 .26 11	--	.0 .00	136 2.23 97	--	2.7 .08 3	1.1 .02 1	.00 --	--	108	5E	
03/03/71 1030	S050 S050	8.24 45	12.0 102	47 F 6 C	7.9 7.9	278	--	--	6.4 .28 10	--	.0 .00	162 2.66 96	--	3.8 .11 4	.4 .01	.00 --	--	140	3E	
04/07/71 1030	S050 S050	8.84 120	10.4 94	52 F 11 C	7.6 7.9	221	--	--	6.0 .26 12	--	.0 .00	124 2.03 92	--	3.2 .09 4	.4 .01	.00 --	--	99	5E	
05/05/71 1000	S050 S050	8.39 44	9.7 95	58 F 14 C	7.6 7.8	266	--	--	8.3 .36 14	--	.0 .00	156 2.56 96	--	2.8 .08 3	.1 .00	.00 --	--	123	4E	
06/23/71 1325	S050 S050	7.74 2.1	9.8 122	81 F 27 C	7.8 8.4	334	34 1.70 46	18 1.48 40	11 .48 13	1.4 .04 1	2.0 .07 2	196 3.21 88	11 .23 6	4.6 .13 4	.1 .00	.10 --	--	182 179	158 5	1E 0.4
F6		3260.00		BLACK BUTTE RIVER NEAR COVELO																
10/21/70 1455	S050 S050	4.90 17	9.7 93	56.3F 13.5C	7.9 8.0	393	61 3.04 73	9.0 .74 18	7.6 .33 8	1.3 .03 1	.0 .00	124 2.03 48	99 2.06 49	3.4 .10 2	.0 .00	.00 --	--	234 242	189 88	90E 0.2
11/11/70 1115	S050 S050	5.84 149	11.2 103	53.0F 11.7C	7.6 7.7	238	--	--	4.6 .20 8	--	.0 .00	82 1.34 56	--	2.1 .06 3	.5 .01	.10 --	--	107	110E	
12/09/70 1145	S050 S050	6.53 500	12.0 103	48.0F 8.9C	7.6 7.8	127	--	--	2.2 .10 8	--	.0 .00	63 1.03 81	--	1.7 .05 4	.1 .00	.10 --	--	63	640E	
01/06/71 1030	S050 S050	5.98 230	13.4 98	36.5F 2.5C	7.5 7.9	188	--	--	3.4 .15 8	--	.0 .00	85 1.39 74	--	1.0 .03 2	.0 .00	.10 --	--	88	40E	
02/03/71 1125	S050 S050	5.76 630	13.2 100	39 F 4 C	7.7 7.9	135	--	--	2.6 .11 8	--	.0 .00	66 1.08 80	--	.1 .00	.0 .00	.00 --	--	64	180E	
03/03/71 1115	S050 S050	4.50 190	12.2 97	42 F 6 C	7.6 7.8	160	--	--	2.4 .10 6	--	.0 .00	75 1.23 77	--	.5 .01 1	.0 .00	.00 --	--	72	25E	
04/07/71 1140	S050 S050	5.56 530	11.2 98	49 F 9 C	7.7 7.7	143	--	--	2.8 .12 8	--	.0 .00	68 1.11 76	--	.4 .01 1	.1 .00	.00 --	--	66	70E	
05/05/71 1045	S050 S050	4.89 300	10.8 97	51 F 11 C	7.5 7.9	135	19 .95 66	4.1 .34 24	2.9 .13 9	.9 .02 1	.0 .00	67 1.10 81	12 .25 19	.1 .00	.5 .01	.10 --	--	70 72	63 10	20E 0.2
06/23/71 1420	S050 S050	3.82 60	8.9 103	73 F 23 C	7.9 8.1	208	--	--	4.0 .17 8	--	.0 .00	98 1.61 77	--	1.7 .05 2	.0 .00	.00 --	--	99	2E	
07/21/71 0905	S050 S050	3.49 21	8.5 98	73 F 23 C	7.9 8.1	256	--	--	5.3 .23 9	--	.0 .00	114 1.87 73	--	1.0 .03 1	.1 .00	.00 --	--	132	1E	
08/18/71 1000	S050 S050	3.26 7.5	8.9 103	73 F 23 C	8.1 8.1	301	--	--	6.1 .27 9	--	.0 .00	126 2.07 69	--	2.7 .08 3	.0 .00	.20 --	--	147	1E	
09/15/71 0950	S050 S050	3.19 6.0	8.8 98	70 F 21 C	8.1 8.1	322	--	--	6.2 .27 8	--	.0 .00	126 2.07 64	--	2.8 .08 2	.1 .00	.00 --	--	156	1E	
F6		4100.00		EEL RIVER SOUTH FORK NEAR MIRANDA																
10/21/70 0945	S050 S050	3.64 81	9.7 92	55.4F 13.0C	7.8 8.1	298	35 1.75 54	12 .99 31	10 .44 14	1.5 .04 1	.0 .00	151 2.47 78	22 .46 15	8.2 .23 7	.0 .00	.10 --	--	144 163	137 14	8E 0.4
11/10/70 1445	S050 S050	7.11 2800	10.5 100	56.0F 13.3C	7.4 7.4	148	--	--	5.6 .24 16	--	.0 .00	65 1.07 72	--	4.1 .12 8	1.8 .03 2	.10 --	--	59	230E	
12/09/70 1500	S050 S050	2.39 15600	11.0 102	54.0F 12.2C	7.4 7.6	98	--	--	5.8 .17 17	--	.0 .00	44 .80 82	--	3.0 .08 8	.1 .00	.10 --	--	44	800E	

TABLE D-2 (Continued)  
MINERAL ANALYSIS OF SURFACE WATER  
North Coastal Area

DATE TIME	SAMPLER LAB	G.M. O DEPTH	NO SAT	TEMP	FIELD LABORATORY PH EC	MINERAL CONSTITUENTS IN								MILLIGRAMS PER LITER MILLIEQUIVALENTS PER LITER					MILLIGRAMS PER LITER				
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TABLE D-3  
TRACE ELEMENT ANALYSES OF SURFACE WATER  
North Coastal Area

STATION	STATION NUMBER	DATE	CONSTITUENTS IN MICROGRAMS PER LITER																
			(Al)	(Be)	(Bi)	(Cd)	(Co)	(Cr)	(Cu)	(Fe)	(Ga)	(Ge)	(Mn)	(Mo)	(Ni)	(Pb)	(Ti)	(V)	(Zn)
Bel River above Outlet Creek (5d)	F51329.50	11-11-70 3- 3-71	17 10	0.6* 0.6*	0.3* 0.3*	1.4* 1.4*	1.4* 1.4*	1.4* 1.4*	1.4* 1.4*	21 11	5.7* 5.7*	0.3* 0.3*	1.4* 1.4*	0.3* 0.3*	3.1 0.6*	1.4* 0.6*	1.3 0.3*	0.3* 0.3*	5.7* 5.7*
Bel River, Middle Fork, at Dos Rios (5c)	F53009.01	10-21-70 5- 5-71	4.0 12	0.6* 0.6*	0.3* 0.3*	1.4* 1.4*	1.4* 1.4*	1.4* 1.4*	1.4* 1.4*	5.4 18	5.7* 5.7*	0.3* 0.3*	1.4* 1.4*	0.3* 0.3*	0.4 0.4	1.4* 1.9	0.6* 0.6*	0.8 6.9	5.7* 5.7*
Bel River at Scotia (6)	F61100.00	11-10-70 1- 5-71	21 31	0.6* 0.6*	0.3* 0.3*	1.4* 1.4*	6.3 1.4*	1.1 1.4*	1.4* 1.4*	60** 13	5.7* 5.7*	0.3* 0.3*	1.1 1.4*	0.3* 0.3*	60 ** 7.4	1.4* 1.4*	2.0 0.6*	0.3* 0.6*	5.7* 14
Klamath River below Iron Gate Dam (1f)	F31599.01	2-17-71 3-15-71 8- 5-71	66 46 1.4*	0.6* 0.6* 0.6*	0.3* 0.4 0.3*	1.4* 1.4* 1.4*	1.4* 1.4* 1.4*	1.4* 1.4* 1.4*	1.4* 1.4* 1.4*	63 34 28	5.7* 5.7* 5.7*	0.3* 0.3* 0.3*	1.4* 1.4* 1.4*	0.3* 0.3* 0.3*	0.5 1.4* 1.4*	1.4* 1.5 0.6*	0.6* 1.3 0.6*	3.4 13 14	5.7* 7.4 5.7*
Klamath River near Klamath (3)	F31100.00	5- 3-71 9-13-71	49 13	0.6* 0.6*	0.3* 0.3*	1.4* 1.4*	1.4* 1.4*	1.4* 1.4*	1.4* 1.4*	14 15	5.7* 5.7*	0.3* 0.3*	1.4* 1.4*	0.3* 0.3*	2.1 23	1.4* 1.4*	1.3 0.6*	1.8 4.6	5.7* 5.7*
Klamath River at Orleans (2c)	F31220.01	5- 3-71 9-13-71	49 11	0.6* 0.6*	0.3* 0.3*	1.4* 1.4*	1.4* 1.4*	1.4* 1.4*	1.4* 1.4*	26 19	5.7* 5.7*	0.3* 0.3*	1.4* 1.4*	0.3* 0.3*	2.1 2.5	1.4* 1.4*	2.1 0.6*	2.1 10	5.7* 5.7*
Klamath River near Seiad Valley (2b)	F31430.00	5-10-71 9-21-71	37 34	0.6* 0.6*	0.3* 0.3*	1.4* 1.4*	1.4* 1.4*	1.4* 1.4*	1.4* 1.4*	37 51	5.7* 5.7*	0.3* 0.3*	1.4* 1.4*	0.3* 0.3*	2.6 0.5	1.4* 1.4*	0.6* 0.6*	8.8 17	5.7* 5.7*
Mad River near Arcata (6a)	F51100.00	3- 1-71 7-19-71	66 6.7	0.6* 0.7*	0.3* 0.3*	1.4* 1.7*	1.4* 1.7*	1.4* 1.7*	1.4* 1.7*	31 11	5.7* 6.7*	0.3* 0.3*	8.3 1.7*	0.3* 0.3*	1.7 8.3	1.4* 1.7*	9.1 0.7*	0.7 1.0	5.7* 6.7*
Trinity River near Hoops (4)	F41080.00	2- 1-71 9-13-71	49 18	0.6* 0.6*	0.3* 0.3*	1.4* 1.4*	1.4* 1.4*	3.1 1.4*	1.4* 1.4*	17 17	5.7* 5.7*	0.3* 0.3*	3.1 1.4*	0.3* 0.3*	2.1 2.6	1.4* 1.4*	0.6* 0.6*	0.9 2.0	5.7* 5.7*

\* Values are less than the amount indicated  
\*\* Values are more than the amount indicated

Al - Aluminum  
Be - Beryllium  
Bi - Bismuth  
Cd - Cadmium  
Co - Cobalt

Cr - Chromium  
Cu - Copper  
Fe - Iron  
Ga - Gallium

CONSTITUENTS

Ge - Germanium  
Mo - Manganese  
Mo - Molybdenum  
Ni - Nickel

Pb - Lead  
Ti - Titanium  
V - Vanadium  
Zn - Zinc

**TABLE D-4**  
**MISCELLANEOUS CONSTITUENTS IN SURFACE WATER**  
**North Coastal Area**

Station Number	Station	Date	Constituents Milligrams per liter						Samp	Lab
			As.	Ba.	Cd.	Pb.	Se.	Hg.		
F01300.00	SMITH RIVER NEAR CRESCENT CITY	5-04-71	0.00	0.0	0.00	0.00	0.00	0.0	5050	5050
F21050.00	SHASTA RIVER NEAR YREKA	5-10-71	0.00	0.0	0.00	0.00	0.00	0.0	5050	5050
F25250.00	SCOTT RIVER NEAR FORT JONES	5-10-71	0.00	0.0	0.00	0.00	0.00	0.0	5050	5050
F31100.00	KLAMATH RIVER NEAR KLAMATH	5-03-71	0.00	0.0	0.00	0.00	0.00	0.0	5050	5050
F31220.01	KLAMATH RIVER AT ORLEANS	5-03-71	0.00	0.1	0.00	0.00	0.00	0.0	5050	5050
F31430.00	KLAMATH RIVER NEAR SEIAD VALLEY	5-10-71	0.00	0.1	0.00	0.00	0.00	0.0	5050	5050
F31599.01	KLAMATH RIVER BELOW IRON GATE DAM	5-10-71	0.00	0.0	0.00	0.00	0.00	0.0	5050	5050
F34100.00	SALMON RIVER AT SOMESBAR	6-21-71	0.00	0.0	0.00	0.00	0.00	0.0	5050	5050
F41080.00	TRINITY RIVER AT HOOPA	5-03-71	0.00	0.0	0.00	0.00	0.00	0.0	5050	5050
F41376.00	TRINITY RIVER NEAR BURNT RANCH	5-03-71	0.00	0.0	0.00	0.00	0.00	0.0	5050	5050
F41640.00	TRINITY RIVER AT LEWISTON	5-03-71	0.00	0.1	0.00	0.00	0.00	0.0	5050	5050
F51100.00	MAD RIVER NEAR ARCAT	5-03-71	0.00	0.0	0.00	0.00	0.00	0.0	5050	5050
F55100.00	REDWOOD CREEK AT ORICK	5-03-71	0.00	0.0	0.00	0.00	0.00	0.0	5050	5050
F61100.00	EEL RIVER AT SCOTIA	5-04-71	0.00	0.1	0.00	0.00	0.00	0.0	5050	5050
F61329.00	EEL RIVER ABOVE OUTLET CREEK NR. DOS RIOS	5-05-71	0.00	0.0	0.00	0.00	0.00	0.0	5050	5050
F61350.00	OUTLET CREEK NEAR LONGVALE	5-05-71	0.00	0.0	0.00	0.00	0.00	0.0	5050	5050
F63009.01	EEL RIVER, MIDDLE FORK AT DOS RIOS	5-05-71	0.00	0.0	0.00	0.00	0.00	0.0	5050	5050
F63200.00	BLACK BUTTE RIVER NEAR COVELO	5-05-71	0.00	0.0	0.00	0.00	0.00	0.0	5050	5050
F64100.00	EEL RIVER, SOUTH FORK NEAR MIRANDA	5-05-71	0.00	0.1	0.00	0.00	0.00	0.0	5050	5050
F65279.00	VAN DUZEN RIVER NEAR BRIDGEVILLE	5-04-71	0.00	0.1	0.00	0.00	0.00	0.0	5050	5050
F71100.00	MATTOLE RIVER NEAR PETROLIA	6-22-71	0.00	0.1	0.00	0.00	0.00	0.0	5050	5050
F60405.01	BEAR RIVER AT CAPETOWN	6-22-71	0.00	0.2	0.00	0.01	0.01	0.0	5050	5050

CONSTITUENTS

As Arsenic  
Ba Barium

Cd Cadmium  
Pb Lead

Se Selenium  
Hg Mercury

TABLE D-5 NUTRIENT ANALYSIS OF SURFACE WATER

Lab and Sampler Agency Codes

5000 - U. S. Geological Survey  
5050 - Department of Water Resources

Abbreviations

<u>TIME</u>	- Pacific Standard Time on a 24-hour clock.
<u>G.H.</u>	- Instantaneous gage height in feet above an established datum.
<u>Q</u>	- Instantaneous discharge measured in cubic feet per second (cfs). "E" indicates the value has been estimated.
<u>TEMP</u>	- Water temperature in degrees Fahrenheit (F) or Celsius (C).
<u>TURB</u>	- Jackson Turbidity Units measured with a Hellige Turbidimeter (E) or a Hach Nephelometer (A).
<u>PH</u>	- Measure of acidity or alkalinity of water.
<u>EC</u>	- Electrical conductance in micromhos at 25° C.
<u>HCO<sub>3</sub></u>	- Bicarbonate
<u>CO<sub>3</sub></u>	- Carbonate

Nitrogen Series as N

NO<sub>2</sub> - Unfiltered nitrite  
NH<sub>3</sub> - Unfiltered ammonia  
NO<sub>3</sub> - Unfiltered nitrate  
ORG N- Organic nitrogen  
DIS - Dissolved organic nitrogen  
ORG N  
NH<sub>3</sub> + - Ammonia plus organic nitrogen  
ORG N

Phosphorus Series as P

FIL - Filterable acid hydrolyzable phosphate  
A.H.PO<sub>4</sub>  
F PO<sub>4</sub>- Filterable orthophosphate  
U PO<sub>4</sub>- Unfiltered orthophosphate  
F TOT P- Filterable total phosphorus  
U TOT P- Unfiltered total phosphorus

TABLE D-5  
NUTRIENT ANALYSIS OF SURFACE WATER  
North Coastal Area

DATE TIME	SAMP LAB	G.M. Q	TEMP TURB	FIELD CO2 ALK.	FIELD LABORATORY PH EC	LAH HCO3 CO3	NO2 NH3	NUTRIENT NO3 ORG N	CONSTITUENTS IN DIS ORG N	FIELD NH3 A.M.P04	PER LITER F P04 U P04	F TOT P U TOT P
F3 1100.00 KLAMATH RIVER NEAR KLAMATH												
10/19/70 1425	5050 5000	3150	13 C 1A		7.9 7.9	120 227		0.02			0.22	
11/09/70 1500	5050 5000	8.35 12900	53 F 170A		7.4 7.5	56 126		0.25			2.4	
12/07/70 1545	5050 5000	8.62 84900	48 F 60A		7.5 7.5	62 120		0.05			2.9	
1/05/71 1010	5050 5000		4.0C 45A		7.0 7.6	83 167		0.23			0.34	
2/01/71 1600	5050 5000	3.56 31500 E	47 F 57A		7.6 7.8	75 136		0.16			0.65	
3/01/71 1630	5050 5000	9.16 18000 E	44 F 20A		7.5 7.8	80 154		0.10			0.01	
4/06/71 0910	5050 5000		10 C 60A		7.6 7.8	79 143		0.10			0.40	
5/03/71 1455	5050 5000		11.1C 30A		7.5 7.9	71 123		0.00			0.18	
6/22/71 0825	5050 5000	4.21 13200	17 C 10A		7.4 7.3	66 112		0.02			0.09	
7/20/71 0900	5050 5000	5.81 6000	22.0C 40A		7.5 8.1	86 144		0.00			0.17	
8/17/71 0840	5050 5000	4.77 3640	20.5C 1A		7.8 8.1	109 186		0.03			0.12	
9/13/71 1425	5050 5000	4.74 3680	21.0C 3A		8.0 7.9	118 208		0.02			0.11	
F3 1430.00 KLAMATH RIVER NEAR SEIAO VALLEY												
10/06/70 1245	5050 5050	1560	57 F 2E		8.4 7.9	125 248		0.27			0.12	
11/16/70 1345	5050 5050		9.0C 6E		7.9 7.7	120 267		0.79			0.09	
1/12/71 1415	5050 5050	5740	37 F 9E		7.3 8.0	111 230		0.70			0.05	
2/17/71 1215	5050 5050	5910	43 F 12E		7.7 7.9	102 196		0.27			0.03	
3/15/71 1445	5050 5050	7160	43 F 19E		7.9 8.3	109 210		0.18			0.01	
4/13/71 1145	5050 5050	10800	50 F 55E		7.6 7.9	92 172		0.14			0.01	
5/10/71 1450	5050 5050	12700	13 C 11E		7.8 7.9	76 143		0.16			0.04	
6/03/71 1140	5050 5050	8140	14.5C 25E		7.8 8.0	86 171		0.00			0.02	
7/06/71 1430	5050 5050	2240	19.5C 2E		8.1 8.0	107 185		0.00			0.01	
8/05/71 1120	5050 5050	1500	22 C 2E		8.3 7.9	109 201		0.05			0.02	
9/21/71 1450	5050 5050	2080	18 C 2E		8.2 7.6	113 220		0.32			0.12	
9/22/71 0800	5050 5050		14.8C 6E		7.5	210		0.35		0.6	0.14	0.19
F3 1470.00 KLAMATH RIVER ABOVE HAMBURG RESERVOIR SITE												
11/16/70 1240	5050 5050	3300 E	8.0C 6E		7.6 7.6	123 288		0.90			0.12	
1/12/71 1330	5050 5050	3590 E	36.0F 13E		7.4 8.0	113 253		0.93			0.07	
3/15/71 1335	5050 5050	4680 E	42 F 15E		8.0 8.6	99 224		0.20			0.01	
5/10/71 1410	5050 5050	7440 E	14 C 20E		7.9 7.7	79 157		0.27			0.04	
7/06/71 1340	5050 5050	920 E	21 C 4E		8.1 7.8	108 204		0.02			0.04	
9/21/71 1345	5050 5050	1810 E	17 C 1E		8.2 7.3	107 213		0.36			0.14	
F3 1599.01 KLAMATH RIVER BELOW IRON GATE DAM												
10/06/70 1030	5050 5050	1330	57 F 3E		7.8 7.8	100 208		0.47			0.14	
11/16/70 1130	5050 5050	3070	8.0C 7E		7.4 7.6	108 276		0.95			0.11	
12/14/70 1130	5050 5050	5000	4.0C 20E		7.3 7.4	88 201		0.90			0.06	
1/12/71 1215	5050 5050	3290	35.0F 7E		7.1 7.8	89 225		1.04			0.06	
2/17/71 1030	5050 5050	3460	5 C 8E		7.5 7.4	88 195		0.11			0.06	

TABLE D-5 (Continued)  
NUTRIENT ANALYSIS OF SURFACE WATER  
North Coastal Area

DATE TIME	SAMP LAB	G.H. Q	TEMP TURB	FIELD CO2 ALK.	FIELD LABORATORY PH EC	LAH HCO3 CO3	NO2 NH3	NUTRIENT CONSTITUENTS IN MILLIGRAMS PER LITER				F P04 U P04	F TOT P U TOT P
								NO3 ORG N	DIS ORG N	NH3 ORG N	FIL. A.H.P04		
F3 1599.01 KLAMATH RIVER BELOW IRON GATE DAM CONTINUED													
3/15/71 1210	5050 5050	3790	39 F 10E		7.3 8.0 188	81 0		0.14				0.00	
4/13/71 1015	5050 5050	7160	50 F 25E		7.5 7.8 145	72 0		0.11				0.01	
5/10/71 1245	5050 5050	6900	12 C 10E		7.6 7.5 186	62 0		0.25				0.06	
6/03/71 0955	5050 5050	4850	15 C 10E		7.4 7.6 155	66 0		0.00				0.05	
7/06/71 1145	5050 5050	836	19.5C 4E		8.1 7.3 160	77 0		0.07				0.05	
8/05/71 0945	5050 5050	1000	22 C 7E		8.2 8.3 164	83 0		0.45				0.04	
9/21/71 1155	5050 5050	1720	17 C 2E		7.9 7.3 190	89 0		0.38				0.16	
9/22/71 0700	5050 5050	3.75	60.5F 7E		7.3 179			0.41				0.17	0.21
F4 1080.00 TRINITY RIVER AT HOOPA													
10/19/70 1015	5050 5050	3.85 530	55.0F 2E		7.6 8.3 206	102 0		0.00				0.10	
11/09/70 1145	5050 5050	1.78 12700	54.0F 350E		7.0 7.3 181	90 0		0.45				0.03	
12/07/70 1110	5050 5050	5.33 23200	48.0 420E		7.5 7.7 136	72 0		0.02				0.07	
1/04/71 1325	5050 5050	8.75 6100	4.0C 55E		7.3 8.0 170	91 0		0.02				0.00	
2/01/71 1100	5050 5050	0.50 10100	44 F 65E		7.5 8.2 147	81 0		0.02				0.01	
3/01/71 1125	5050 5050	7.85 4100	41 F 45E		7.5 7.8 156	84 0		0.00				0.00	
4/05/71 1055	5050 5050	0.02 9920	50 F 70E		7.6 7.9 148	86 0		0.02				0.00	
5/03/71 1010	5050 5050	9.03 7260	52 F 70E		7.4 7.5 136	73 0		0.02				0.00	
6/21/71 0940	5050 5050	6.41 2590	17 C 8E		7.5 7.7 133	73 0		0.00				0.00	
7/19/71 1030	5050 5050	5.53 1660	21 C 190E		7.3 7.5 124	66 0		0.05				0.00	
8/16/71 1015	5050 5050	4.24 690	20 F 1E		7.8 8.0 194	102 0		0.00				0.02	
9/13/71 1020	5050 5050	4.12 642	20 C 1E		8.0 8.0 202	107 0		0.14				0.00	
F4 1376.00 TRINITY RIVER NEAR BURNI RANCH													
11/09/70 1045	5050 5050	49.0F 6700 F	160F		7.2 7.4 81	39 0		0.25				0.02	
1/04/71 1145	5050 5050	3.0C 1900 E	2E		7.4 8.2 173	94 0		0.00				0.01	
3/01/71 1015	5050 5050	40 F 1350	2E		7.5 7.4 152	84 0		0.00				0.00	
5/03/71 0850	5050 5050	50 F 2830	3E		7.4 7.9 117	64 0		0.02				0.00	
7/19/71 0930	5050 5050	20 C 885	25E		7.3 7.4 90	50 0		0.02				0.00	
9/13/71 0920	5050 5050	19 C 343	1E		7.7 7.6 157	84 0		0.00				0.00	
F4 1640.00 TRINITY RIVER AT LEWISTON													
11/09/70 0855	5050 5050	3.35 245	49.0F 6E		7.1 7.6 105	56 0		0.18				0.00	
1/04/71 1030	5050 5050	2.96 153	5.0C 3E		7.1 8.0 88	49 0		0.14				0.00	
2/01/71 0845	5050 5050	2.98 157	43 F 3F		7.3 7.4 92	46 0		0.14				0.00	
3/01/71 0955	5050 5050	2.99 158	42 F 4E		7.3 7.5 86	48 0		0.00				0.00	
5/03/71 0730	5050 5050	4.43 824	44 F 2E		7.1 7.1 83	46 0		0.02				0.00	
7/19/71 0800	5050 5050	2.99 150	12 C 2F		7.2 7.4 84	48 0		0.00				0.00	
9/13/71 0750	5050 5050	3.23 238	9 C 1F		7.4 7.5 84	44 0		0.00				0.00	



TABLE D-5 (Continued)  
NUTRIENT ANALYSIS OF SURFACE WATER  
North Coastal Area

DATE TIME	SAMP LAB	G.M. Q	TEMP TURB	FIELD CO2 ALK.	FIELD LABORATORY PH	LAB HCO3 CO3	NO2 NH3	NUTRIENT NO3 ORG N	CONSTITUENTS IN OIS ORG N	MILLIGRAMS PER NH3 + ORG N	FIL. A.M.P04	PER F P04 U P04	F TOT P U TOT P
F6 1100.00 EEL RIVER AT SCOTIA													
10/20/70 1525	5050 5000	200 E	15.5C 2A	8.3 8.3	353	186 0		0.02				0.13	
11/10/70 1630	5050 5000	6.02 18000	57 F 225A	7.8 7.7	180	75 0		0.63				2.3	
12/08/70 1330	5050 5000	3.51 64600	53 F 30A	7.4 7.1	134	62 0		0.20				4.8	
1/05/71 1400	5050 5000	5.0C 10900	53A	7.1 7.7	197	89 0		0.16				0.43	
2/02/71 1515	5050 5000	3.22 6820	50 F 65A	7.6 7.8	190	93 0		0.05				0.58	
3/02/71 1215	5050 5000	1.91 3600	48 F 20A	8.2 7.5	295	121		0.50				0.25	
4/06/71 1315	5050 5000	12.8C 7300	20A	7.6 7.8	167	89		0.00				0.20	
5/04/71 1745	5050 5000	12.8C 4370	5A	8.1 8.0	253	121		0.00				0.10	
6/23/71 0815	5050 5000	0.03 766	19.0C 1A	7.9 7.3	234	130 0		0.00				0.05	
7/20/71 1315	5050 5000	9.33 336	25.0C 1A	8.1 8.1	270	155 0		0.10				0.05	
8/17/71 1305	5050 5000	8.96 187	24.0C 1A	8.1 8.2	296	165 0		0.11				0.10	
9/14/71 1415	5050 5000	8.80 171	23.0C 1A	8.4 8.4	289	98 30		0.01				0.05	
F6 1329.50 EEL RIVER ABOVE OUTLET CREEK NEAR DUS RIOS													
10/21/70 1235	5050 5050	1.92 10	12.5C 10E	7.9 8.3	282	120 0		0.07				0.00	
11/11/70 0900	5050 5050	2.76 205	55.0F 50E	7.5 7.9	181	82 0		0.54				0.03	
12/09/70 0930	5050 5050	9.23 5720	46.0F 230E	7.3 7.6	108	56 0		0.02				0.03	
1/06/71 1300	5050 5050	4.43 978	3.5C 40E	7.2 8.0	136	68 0		0.07				0.01	
2/03/71 0910	5050 5050	4.55 990	42 F 70E	7.6 7.8	122	68 0		0.02				0.00	
3/03/71 0900	5050 5050	2.69 136	46 F 5E	7.7 8.0	179	89 0		0.00				0.00	
4/07/71 0955	5050 5050	3.71 349	52 F 15E	7.8 7.9	157	80 0		0.02				0.01	
5/05/71 0825	5050 5050	3.42 260	57 F 10E	7.7 7.7	169	83 0		0.02				0.01	
6/23/71 1205	5050 5050	2.65 30	25 C 2E	8.2 8.3	221	116		0.00				0.00	
7/21/71 0645	5050 5050	2.56 13	24 C 1E	7.5 7.7	240	114 0		0.02				0.00	
8/18/71 0815	5050 5050	2.46 10	21 C 1E	7.9 8.1	239	112 0		0.00				0.01	
9/15/71 0750	5050 5050	2.43 8.4	20 C 2E	7.6 7.9	250	122 0		0.02				0.00	
F6 3009.01 EEL RIVER MIDDLE FORK AT DUS RIOS													
10/21/70 1320	5050 5050	8.29 33	13.5C 35E	8.0 8.0	400	112 0		0.00				0.00	
11/11/70 1215	5050 5050	0.51 1310	55.0F 180E	7.6 7.7	181	75 0		0.20				0.02	
12/09/70 1030	5050 5050	3.90 8040	45.0F 560E	7.8 7.7	126	65 0		0.00				0.71	
1/06/71 1220	5050 5050	0.62 1520	3.0C 55E	7.5 7.4	140	68 0		0.02				0.00	
2/03/71 1000	5050 5050	0.96 2340	43 F 180E	7.6 7.9	138	74 0		0.02				0.00	
3/03/71 0945	5050 5050	9.71 792	43 F 30E	7.6 7.4	170	85 0		0.00				0.00	
4/07/71 1000	5050 5050	1.31 2550	49 F 90E	7.6 7.8	146	73 0		0.02				0.01	
5/05/71 0900	5050 5050	0.89 2030	52 F 70E	7.6 8.0	133	70 0		0.02				0.00	
6/23/71 1300	5050 5050	8.95 245	22 C 2E	8.0 8.3	142	59 0		0.00				0.00	
7/21/71 0750	5050 5050	8.34 64	23 C 2F	7.9 8.0	260	119 0		0.02				0.00	
8/18/71 0910	5050 5050	8.10 22	22.0C 1E	8.0 8.3	306	123 0		0.00				0.01	
9/15/71 0845	5050 5050	8.03 16	20 C 1E	8.0 8.0	314	106 0		0.02				0.00	



TABLE D-5 (Continued)  
NUTRIENT ANALYSIS OF SURFACE WATER  
North Coastal Area

DATE TIME	SAMP LAB	G.M. Q	TEMP TURB	FIELD CO2 ALK.	FIELD LABORATORY PH FC	LAH HC03 CO3	NO2 NH3	NUTRIENT NO3 ORG N	CONSTITUENTS IN D15 ORG N	MILLIGRAMS PER NH3 • ORG N	LITER FIL. A.H.P04	F P04 U P04	F TOT P U TOT P
F6 3050.00 MILL CREEK NEAR COVELO													
11/11/70 1015	5050 5050	8.28 22	55.0F 15E		7.4 7.5	89 0		0.60				0.02	
12/09/70 1245	5050 5050	5.66 350	47.0F 90E		7.3 7.8	65 0		0.18				0.02	
1/06/71 1130	5050 5050	5.66 130	3.0C 3E		7.1 7.7	104 0		0.18				0.01	
2/03/71 1045	5050 5050	8.61 94	43 F 5F		7.5 8.0	136 0		0.25				0.02	
3/03/71 1030	5050 5050	8.24 45	47 F 3E		7.9 7.9	162 0		0.09				0.01	
4/07/71 1030	5050 5050	8.84 120	52 F 5E		7.6 7.9	124 0		0.09				0.02	
5/05/71 1000	5050 5050	8.39 44	58 F 4E		7.6 7.8	156 0		0.02				0.00	
6/23/71 1325	5050 5050	7.74 2.1	27 C 1E		7.8 8.4	196 2		0.02				0.02	
F6 3200.00 BLACK BUTTE RIVER NEAR COVELO													
10/21/70 1455	5050 5050	4.90 17	13.5C 90E		7.9 8.0	124 0		0.00				0.00	
11/11/70 1115	5050 5050	5.84 149	53.0F 110E		7.6 7.7	82 0		0.11				0.01	
12/09/70 1145	5050 5050	6.53 500	48.0F 640E		7.6 7.8	63 0		0.02				0.65	
1/06/71 1030	5050 5050	5.98 230	2.5C 40E		7.5 7.9	85 0		0.00				0.00	
2/03/71 1125	5050 5050	5.76 630	39 F 180E		7.7 7.9	66 0		0.00				0.00	
3/03/71 1115	5050 5050	4.50 190	42 F 25E		7.6 7.8	75 0		0.00				0.00	
4/07/71 1140	5050 5050	5.56 530	49 F 70E		7.7 7.7	68 0		0.02				0.01	
5/05/71 1045	5050 5050	4.89 300	51 F 20E		7.5 7.9	67 0		0.02				0.00	
6/23/71 1420	5050 5050	3.82 60	23 C 2E		7.9 8.1	98 0		0.00				0.00	
7/21/71 0905	5050 5050	3.49 21	23 C 1E		7.9 8.1	114 0		0.02				0.00	
8/18/71 1000	5050 5050	3.26 7.5	23 C 1E		8.1 8.1	126 0		0.00				0.01	
9/15/71 0950	5050 5050	3.19 6.0	21 C 1E		8.1 8.1	128 0		0.02				0.00	
F6 4100.00 EEL RIVER SOUTH FORK NEAR MIKANDA													
10/21/70 0945	5050 5050	3.64 81	13.0C 8E		7.8 8.1	151 0		0.00				0.00	
11/10/70 1445	5050 5050	7.11 2800	56.0F 230E		7.4 7.4	65 0		0.41				0.03	
12/08/70 1500	5050 5050	2.39 15600	54.0F 400E		7.4 7.6	49 0		0.02				0.05	
1/05/71 1530	5050 5050	7.13 2570	5.5C 45E		7.1 8.0	61 0		0.00				0.01	
2/02/71 1630	5050 5050	6.04 1200	49 F 35E		7.3 7.9	74 0		0.02				0.02	
3/02/71 1400	5050 5050	5.44 688	46 F 10E		7.7 7.9	85 0		0.02				0.02	
4/06/71 1505	5050 5050	6.33 1500	55 F 20E		7.5 7.8	74 0		0.02				0.02	
5/05/71 0610	5050 5050	5.56 772	57 F 4F		7.4 7.6	74 0		0.02				0.02	
6/23/71 0930	5050 5050	4.59 176	20 C 2E		7.9 8.2	101 0		0.00				0.01	
7/20/71 1445	5050 5050	4.39 93	27 C 2E		8.3 8.3	125 0		0.00				0.00	
8/17/71 1430	5050 5050	4.29 62	24 C 1F		8.3 8.8	89 5		0.00				0.01	
9/14/71 1515	5050 5050		24 C 2E		8.4 8.6	104 5		0.02				0.00	



## APPENDIX E

### GROUND WATER QUALITY

This appendix presents ground water quality data collected during the period from October 1, 1970, through September 30, 1971. The data were collected from a number of major ground water sources in the North Coastal area in cooperation with local agencies. During the 1971 water year, 109 wells were sampled in 12 ground water basins.

At the time of field sampling, pH, specific conductance, and temperature measurements are made. The results are compared with measurements made in previous years. If a substantial change is noted, the samples are submitted to the laboratory for further analyses.

Laboratory analyses of ground waters were performed in accordance with "Standard Methods for the Examination of Water and Waste Water", 13th Edition, 1971.

The Region and Basin and State Well Numbering Systems are described in Appendix C, "Ground Water Measurements".

TABLE E-1 MINERAL ANALYSIS OF GROUND WATER

An explanation of column headings follows:

The LAB and SAMPLER agency code is as follows:

5050 - California Department of Water Resources

<u>TIME</u>	- Pacific Standard Time on a 24-hour clock.
<u>TEMP</u>	- Water temperature in degrees Fahrenheit or degrees Celsius. The computer prints out both.
<u>PH LAB &amp; FIELD</u>	- Measure of acidity or alkalinity of water.
<u>EC LAB</u>	- The electrical conductance in micromhos at 25° Celsius.
<u>EC FIELD</u>	- The electrical conductance in micromhos at time of field sampling.
<u>TDS</u>	- Gravimetric determination of total dissolved solids at 180° Celsius.
<u>SUM</u>	- Total dissolved solids determined by addition of analyzed constituents.
<u>TH</u>	- Total hardness.
<u>NCH</u>	- Noncarbonate hardness.
<u>SAR</u>	- Sodium adsorption ratio.
<u>PERCENT REACTANCE</u>	
<u>VALUE</u>	- Determined by dividing the sum of the cations or anions in milliequivalents per liter into each constituent in milliequivalents per liter arriving at a percentage. For a partial analysis, an approximate value is determined by multiplying the electrical conductance by 0.01 and using that as the cation or anion sum.

The MINERAL CONSTITUENTS are as follows:

B	- Boron	K	- Potassium
CA	- Calcium	MG	- Magnesium
CL	- Chloride	NA	- Sodium
CO3	- Carbonate	NO3	- Nitrate
F	- Fluoride	SIO2	- Silica
HCO3	- Bicarbonate	SO4	- Sulfate

### North Coastal Area

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TABLE E-1 (Continued)  
MINERAL ANALYSIS OF GROUND WATER  
North Coastal Area

DATE TIME	SAMPLE LAB	TEMP	FIELD LABORATORY PH EC	MINERAL CONSTITUENTS IN					MILLIGRAMS PER LITER MILLIEQUIVALENTS PER LITER PERCENT REACTANCE VALUE					MILLIGRAMS PER LITER					
				CA	MG	NA	K	CO3	HCO3	SO4	CL	NO3	B	F	TDS SUM	TH NCH	SAF		
1 1-03				NORTH COASTAL REGION BUTTE VALLEY					CONTINUED										
08/26/71 0730	5050	M	47N/01E-20D01	56 F 7.7 528	34	17	54	7.8	.0	323	3.8	14	1.7	.10	--	337	154	1.9	
			13 C 6.1 521	1.70 30	1.40 25	2.35 42	.20 4	.00	5.29 91	.08 1	.39 7	.03 1	--	--	291	110			
08/26/71 0800	5050	M	47N/01E-31A01	65 F 7.6 215	--	--	30	--	.0	119	--	2.0	--	--	--		52		
			18 C 7.9 221			1.31 59		.00	1.95 88		.06 3		--	--					
08/25/71 1220	5050	M	47N/01E-32A01	69 F 7.8 222	--	--	--	--	--	--	--	--	--	--	--				
			21 C										--	--					
08/24/71 1245	5050	M	48N/01E-30F01	55 F 7.8 305	26	14	14	4.9	.0	169	10	2.0	.2	.10	--	207	122	0.0	
			13 C 7.8 294	1.30 41	1.15 36	.61 19	.13 4	.00	2.77 91	.21 7	.06 2	.00	--	--	154	16			
08/26/71 1500	5050	M	45N/01W-33D01	61 F 7.1 115	--	--	--	--	.0	65	--	.0	--	--	--		48		
			16 C 7.4 110					.00	1.07 97		.00		--	--					
08/27/71 0925	5050	M	45N/02W-01P01	51 F 6.5 200	--	--	--	--	--	--	--	--	--	--	--				
			11 C										--	--					
08/27/71 1100	5050	M	45N/02W-01O02	46 F 6.3 105	8.5	4.6	4.3	1.6	.0	53	.7	.0	2.8	.00	--	55	40	0.3	
			9 C 7.8 101	.42 41	.38 37	.19 18	.04 4	.00	.87 94	.01 1	.00	.05 5	--	--	49	4			
08/26/71 0900	5050	M	46N/01W-02F01	56 F 8.0 390	--	--	--	--	.0	224	--	4.3	--	--	--		111		
			13 C 8.0 382					.00	3.67 96		.12 3		--	--					
08/26/71 1630	5050	M	46N/01W-06P01	53 F 7.2 655	--	--	--	--	.0	370	--	9.1	--	--	--		256		
			12 C 7.8 632					.00	6.06 96		.26 4		--	--					
08/15/71 1430	5050	M	46N/01W-09R01	57 F 8.2 425	--	--	75	--	3.0	248	--	2.8	--	--	--		58		
			14 C 8.5 398			3.26 82		.10 3	4.06 102		.08 2		--	--					
08/25/71 1315	5050	M	46N/01W-17B01	55 F 8.0 370	--	--	--	--	--	--	--	--	--	--	--				
			13 C										--	--					
08/25/71 1400	5050	M	46N/01W-17G02	59 F 8.0 390	--	--	15	--	--	215	--	7.3	--	--	--		172		
			15 C 8.1 391			.65 17			3.52 90		.21 5		--	--					
08/25/71 1300	5050	M	46N/01W-17L01	55 F 7.3 465	--	--	--	--	--	--	--	--	--	--	--				
			13 C										--	--					
08/26/71 1400	5050	M	46N/01W-18O02	52 F 7.3 600	--	--	28	--	.0	381	--	4.8	--	--	--		259		
			11 C 8.0 576			1.22 21		.00	6.24 108		.14 2		--	--					
08/27/71 0830	5050	M	46N/01W-19J04	51 F 7.1 320	--	--	--	--	.0	151	--	2.8	--	--	--		138		
			11 C 8.0 320					.00	2.47 77		.08 3		--	--					
08/27/71 0900	5050	M	46N/01W-31B02	53 F 7.0 338	--	--	--	--	.0	149	--	1.4	--	--	--		148		
			12 C 8.0 339					.00	2.44 72		.04 1		--	--					
08/27/71 0910	5050	M	46N/01W-31R01	52 F 6.8 200	--	--	--	--	.0	94	--	1.0	--	--	--		88		
			11 C 7.8 200					.00	1.54 77		.03 2		--	--					



TABLE E-1 (Continued)  
MINERAL ANALYSIS OF GROUND WATER  
North Coastal Area

SAMPLER LAB	TEMP	FIELD LABORATORY PH	EC	MINERAL CONSTITUENTS IN				MILLIGRAMS PER LITER MILLIEQUIVALENTS PER LITER					MILLIGRAMS PER LITER				
				CA	MG	NA	K	CO3	PERCENT HCO3	REACTANCE S04	CL	NO3	8	F 5102	TDS SUM	TH NCH	SAR
1 1-03				NORTH COASTAL REGION BUTTE VALLEY				CONTINUED									
46N/02W-13P01	M																
5050	52	F	7.1	455	20	20	36	6.0	.0	243	1.2	9.0	12.0	.00	--	276	134
5050	11	C	8.3	411	1.00	1.64	1.57	.15	.00	3.98	.02	.25	.19	--	--	224	67
					23	38	36	3		90		6	4				1.4
46N/02W-13001	M																
5050	53	F	7.3	660	41	39	33	8.8	.0	3870	21	5.8	10.0	.00	--	387	264
5050	12	C	7.8	619	2.05	3.21	1.44	.23	.00	63.43	.44	.16	.16	--	--	2061	2911
					30	46	21	3		99	1						0.9
46N/02W-16A02	M																
5050	51	F	7.8	180	--	--	--	--	--	--	--	--	--	--	--		
	11	C												--	--		
46N/02W-25R01	M																
5050	54	F	7.1	370	--	--	14	--	.0	173	--	2.4	--	--	--		156
5050	12	C	7.8	354			.61		.00	2.84		.07		--	--		
							17			80		2					
46N/02W-26P01	M																
5050	54	F	7.7	192	--	--	--	--	.0	112	--	.0	--	--	--		76
5050	12	C	8.1	187					.00	1.84		.00		--	--		
										98							
46N/02W-26002	M																
5050	60	F	7.1	268	--	--	--	--	.0	141	--	3.5	4.1	--	--		105
5050	16	C	7.6	253					.00	2.31		.10	.07	--	--		
										91		4	3				
46N/02W-34801	M																
5050	56	F	7.3	150	--	--	--	--	.0	90	--	1.0	--	--	--		64
5050	13	C	7.9	152					.00	1.48		.03		--	--		
										97		2					
46N/02W-36K01	M																
5050	54	F		320	--	--	9.2	--	.0	128	--	3.0	--	--	--		142
5050	12	C	7.7	320			.40		.00	2.10		.08		--	--		
							13			66		3					
47N/01W-23H02	M																
5050	64	F	7.4	285	7.7	9.2	37	7.0	.0	139	.0	13	10.0	.20	--	193	57
5050	18	C	7.6	286	.38	.76	1.61	.18	.00	2.28	.00	.37	.16	--	--	152	57
					13	26	55	6		81		13	6				2.1
47N/02W-21H03	M																
5050	64	F	7.3	112	--	--	--	--	--	--	--	--	--	--	--		
	18	C												--	--		
48N/01W-28F01	M																
5050	82	F	9.1	200	--	--	--	--	1.0	103	--	7.5	--	--	--		11
5050	28	C	8.5	195					.03	1.69		.21		--	--		
									2	87		11					
48N/01W-28J03	M																
5050	57	F	7.4	520	41	23	34	7.2	.0	287	25	6.0	9.7	.10	--	336	198
5050	14	C	8.3	493	2.05	1.89	1.48	.18	.00	4.70	.52	.17	.16	--	--	287	38
					37	34	26	3		85	9	3	3				1.1
48N/01W-31M01	M																
5050	62	F	7.3	485	--	--	13	--	.0	101	--	32	--	--	--		190
5050	17	C	7.9	465			.57		.00	1.66		.90		--	--		
							12			36		19					
48N/01W-34801	M																
5050	56	F	7.6	560	27	39	14	5.6	.0	288	19	7.4	6.1	.10	--	284	229
5050	13	C	8.3	468	1.35	3.21	.61	.14	.00	4.72	.40	.21	.10	--	--	260	8
					25	60	11	3		87	7	4	2				0.4
48N/01W-34G01	M																
5050	71	F	7.9	510	24	21	52	12	.0	313	3.0	12	3.5	.20	--	306	146
5050	22	C	8.1	503	1.20	1.73	2.26	.31	.00	5.13	.06	.34	.06	--	--	282	110
					22	31	41	6		92	1	6	1				1.9
48N/01W-36J01	M																
5050	57	F	7.3	1350	--	--	--	--	.0	769	--	33	--	--	--		365
5050	14	C	8.2	1310					.00	12.60		.93		--	--		
										96		7					
1-04				SHASTA VALLEY													
42N/05W-20J01	M																
5050	60	F	6.8	410	--	--	--	--	--	--	--	--	--	--	--		
	16	C												--	--		

TABLE E-1 (Continued)  
MINERAL ANALYSIS OF GROUND WATER  
North Coastal Area

DATE TIME	SAMPLER LAB	TEMP	FIELD LABORATORY PH EC	MINERAL CONSTITUENTS IN				MILLIGRAMS PER LITER MILLIEQUIVALENTS PER LITER				MILLIGRAMS PER LITER				TDS SUM	TH NCH	SAR	
				CA	MG	NA	K	CO3	HC03	SO4	CL	NO3	B	F	SI02				
1-04				NORTH COASTAL REGION SHASTA VALLEY				CONTINUED											
08/03/71 0930	5050	42N/06W-10J01	M 67 19	F C	7.3 540	--	--	--	--	--	--	--	--	--	--	--	--		
08/03/71 1200	5050	43N/05W-02C01	M 53 12	F C	6.5 250	--	--	--	--	--	--	--	--	--	--	--	--		
08/03/71 1000	5050 5050	43N/06W-21R01	M 62 17	F C	7.4 495 7.9 473	62 3.09 58	23 1.89 35	7.9 .34 6	1.2 .03 1	.0 5.05 95	308 6.4 13	1.2 1.03 1	5.4 .09 2	.00	--	261 259	248 4 0.2		
08/03/71 1100	5050 5050	44N/05W-32C02	M 63 17	F C	7.3 1430 7.9 1390	49 2.45 16	79 6.50 44	134 5.83 39	4.6 .12 1	.0 9.56 64	583 13 27	177 4.99 34	3.2 .05	2.00	--	814 748	448 31 2.8		
08/03/71 1105	5050 5050	44N/05W-32C03	M 63 17	F C	7.2 1150 8.3 1160	--	--	--	--	.0 9.62 83	587 --	104 2.93 25	--	--	--	--	446		
08/03/71 1145	5050	44N/05W-34H01	M 58 14	F C	7.1 760	--	--	--	--	--	--	--	--	--	--	--	--		
08/03/71 1045	5050 5050	44N/06W-22K01	M 66 19	F C	7.1 470 7.6 466	46 2.30 47	19 1.56 32	22 .96 20	2.7 .07 1	.0 3.82 79	233 8.1 17	13 .37 8	30.0 .48 10	.20	--	280 256	194 2 0.7		
08/04/71 0900	5050	45N/05W-06E01	M 68 20	F C	8.1 960	--	--	--	--	--	--	--	--	--	--	--	--		
08/04/71 0810	5050	45N/06W-19E01	M 64 14	F C	7.5 340	--	--	--	--	--	--	--	--	--	--	--	--		
1-05				SCOTT RIVER VALLEY															
08/03/71 1440	5050	42N/09W-27K01	M 57 14	F C	6.0 63	--	--	--	--	--	--	--	--	--	--	--	--		
08/03/71 1340	5050 5050	43N/09W-02G01	M 60 16	F C	7.2 445	--	--	--	--	--	--	--	--	--	--	--	--		
08/03/71 1600	5050	43N/09W-08F01	M 67 19	F C	6.3 98	--	--	--	--	--	--	--	--	--	--	--	--		
08/03/71 1410	5050	43N/09W-24F02	M 57 14	F C	7.1 428	--	--	--	--	--	--	--	--	--	--	--	--		
08/03/71 1505	5050 5050	43N/09W-29G02	M 63 17	F C	6.1 58	--	--	--	--	--	--	--	--	--	--	--	--		
08/03/71 1535	5050	43N/10W-11E01	M 56 13	F C	6.3 85	--	--	--	--	--	--	--	--	--	--	--	--		
08/03/71 1400	5050	44N/09W-34R01	M 63 17	F C	6.8 330	--	--	--	--	--	--	--	--	--	--	--	--		
1-06				HAYFORK VALLEY															
08/18/71 1030	5050	31N/12W-12L01	M 60 16	F C	6.1 180	--	--	--	--	--	--	--	--	--	--	--	--		

TABLE E-1 (Continued)  
MINERAL ANALYSIS OF GROUND WATER  
North Coastal Area

DATE TIME	SAMPLER LAB	TEMP	FIELD LABORATORY PH EC	MINERAL CONSTITUENTS IN				MILLIGRAMS PER LITER MILLIEQUIVALENTS PER LITER					MILLIGRAMS PER LITER				
				CA	MG	NA	K	CO3	HCO3	SO4	CL	NO3	B	F	TDS SUM	TH NCH	SAR
	1			NORTH COASTAL REGION				CONTINUED									
	1-06			HAYFORK VALLEY													
8/1/71	31N/12W-15K01	M															
120	5050	66	F 6.5	268	--	--	--	--	--	--	--	--	--	--			
		19	C														
	1-08			MAD RIVER VALLEY													
8/1/71	05N/01E-04H04	H															
00	5050	60	F 7.7	445	--	--	--	--	--	--	--	--	--	--			
		16	C														
8/1/71	06N/01E-07M01	H															
10	5050	62	F 6.3	520	--	--	--	--	--	--	--	--	--	--			
		17	C														
8/1/71	06N/01E-08H01	H															
10	5050	60	F 5.9	182	--	--	--	--	--	--	--	--	--	--			
		16	C														
8/1/71	06N/01E-19Q01	H															
15	5050	60	F 6.5	365	--	--	--	--	--	--	--	--	--	--			
	5050	16	C														
8/1/71	06N/01E-30N01	H															
05	5050	65	F 7.2	380	--	--	--	--	--	--	--	--	--	--			
		18	C														
8/1/71	06N/01E-32F01	H															
05	5050	66	F 7.3	680	--	--	--	--	--	--	--	--	--	--			
		19	C														
8/1/71	06N/01W-01H01	H															
10	5050	64	F 6.3	158	--	--	--	--	--	--	--	--	--	--			
		19	C														
	1-09			EUREKA PLAIN													
8/1/71	05N/01E-18Q01	H															
05	5050	63	F 7.6	775	--	--	--	--	--	--	--	--	--	--			
		17	C														
8/1/71	05N/01E-20Q01	H															
05	5050	57	F 6.3	275	--	--	--	--	--	--	--	--	--	--			
		14	C														
8/1/71	04N/01W-08P01	H															
05	5050	57	F 7.7	155	--	--	--	.0	66	--	14	--	--	--			54
	5050	14	C 8.0	157	--	--	--	.00	1.08	--	.39	--	--	--			
									69		25						
8/1/71	04N/01W-16H01	H															
15	5050	58	F 7.4	485	--	--	--	.0	250	--	30	7.2	--	--			198
	5050	14	C 8.1	487	--	--	--	.00	4.10	--	.85	.12	--	--			
									84		17	2					
8/1/71	04N/01W-17H01	H															
08	5050	55	F 7.1	165	--	--	--	--	--	--	--	--	--	--			
	5050	13	C														
8/1/71	05N/01W-29Q01	H															
08	5050	60	F 6.5	275	--	--	--	--	--	--	--	--	--	--			
		15	C														
	1-10			EEL RIVER VALLEY													
8/1/71	02N/01W-04Q01	H															
12	5050	59	F 7.0	540	--	--	--	--	--	--	--	--	--	--			
		15	C														
8/1/71	02N/01W-07F01	H															
12	5050	56	F 7.1	460	--	--	--	--	--	--	--	--	--	--			
		13	C														
8/1/71	03N/01W-05K01	H															
09	5050	61	F 6.3	150	--	--	--	--	--	--	--	--	--	--			
		16	C														

TABLE E-1 (Continued)  
MINERAL ANALYSIS OF GROUND WATER  
North Coastal Area

DATE TIME	SAMPLER LAB	TEMP	FIELD LABORATORY PH EC	MINERAL CONSTITUENTS IN							MILLIGRAMS PER LITER MILLIEQUIVALENTS PER LITER PERCENT REFRACTANCE VALUE				MILLIGRAMS PER LITER				
				CA	MG	NA	K	CO3	HCO3	SO4	CL	NO3	B	F	TDS SUM	TH NCH	SAR		
.....																			
1 1-10		NORTH COASTAL REGION EEL RIVER VALLEY										CONTINUED							
08/10/71 0930	S050	03N/01W-18A01	M 59 15	F C	7.1 438	--	--	--	--	--	--	--	--	--	--	--	--		
08/10/71 1445	S050	03N/01W-30N01	M 56 13	F C	6.5 570	--	--	--	--	--	--	--	--	--	--	--	--		
08/10/71 1015	S050 S050	03N/02W-13J01	M 57 14	F C	6.8 3500 7.8 3510	--	--	--	--	.0 .00	239 3.92 11	-- 1090 30.74 88	--	--	--	--	1230		
08/10/71 1315	S050	03N/02W-32O01	M 57 14	F C	8.3 910	--	--	--	--	--	--	--	--	--	--	--	--		
08/10/71 1420	S050	03N/02W-35M01	M 56 13	F C	7.0 760	--	--	--	--	--	--	--	--	--	--	--	--		
1-11		ROUND VALLEY																	
05/12/71 0900	S050	22N/12W-06L02	M 59 15	F C	7.1 430	--	--	--	--	--	--	--	--	--	--	--	--		
05/12/71 0820	S050	22N/13W-01J03	M 58 14	F C	7.1 220	--	--	--	--	--	--	--	--	--	--	--	--		
05/12/71 1100	S050	22N/13W-13A01	M 63 17	F C	7.0 245	--	--	--	--	--	--	--	--	--	--	--	--		
05/12/71 0950	S050	23N/12W-33L03	M 59 15	F C	7.1 620	--	--	--	--	--	--	--	--	--	--	--	--		
05/12/71 1035	S050	23N/13W-36P03	M 64 18	F C	6.8 250	--	--	--	--	--	--	--	--	--	--	--	--		
1-12		LAYTONVILLE VALLEY																	
05/11/71 1330	S050	21N/15W-01L02	M 56 13	F C	7.1 440	--	--	--	--	--	--	--	--	--	--	--	--		
05/11/71 1320	S050	21N/15W-12M02	M 59 15	F C	5.7 65	--	--	--	--	--	--	--	--	--	--	--	--		
1-13		LITTLE LAKE VALLEY																	
05/11/71 1500	S050 S050	18N/13W-06L01	M 57 14	F C	6.1 320 8.2 298	--	--	--	--	.0 .00	160 2.62 88	-- M.0 .23 8	--	--	--	--	112		
05/11/71 1530	S050 S050	18N/13W-20M03	M 56 13	F C	6.1 150 7.9 138	13 .65 44	8.4 .69 47	2.8 .12 8	.8 .02 1	.0 .00	79 1.29 92	2.3 .05 4	2.2 .06 4	.2 .00	.10 --	-- 82 69	67 3 0.1		

TABLE E-2  
TRACE ELEMENT ANALYSES OF GROUND WATER  
NORTH COASTAL AREA

State Well Number	Date	Constituents in parts per million							
		As	Cd	Cu	Fe (Total)	Pb	Mn	Se	Zn

BUTTE VALLEY (1-3.00)

47N-1E-6J1	8-25-71	0.00							
48N-1E-31D3	8-24-71	0.00							

SHASTA VALLEY (1-4.00)

44N-5W-32C2	8- 3-71	0.00	0.00	0.00	0.01	0.01	0.08	0.00	0.01
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SCOTT RIVER VALLEY (1-5.00)

43N-9W- 2G1	8- 3-71					0.00			
43N-9W-29G2	8- 3-71					0.01			

MAD RIVER VALLEY (1-8.00)

6N-1E-19Q1	8- 9-71	0.00	0.00	0.01	0.22	0.02	0.40	0.00	0.01
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EUREKA PLAIN (1-9.00)

4N-1W-17B1	8-10-71	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01
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CONSTITUENTS

As	Arsenic	Fe	Iron	Se	Selenium
Cd	Cadmium	Pb	Lead	Zn	Zinc
Cu	Copper	Mn	Manganese		





